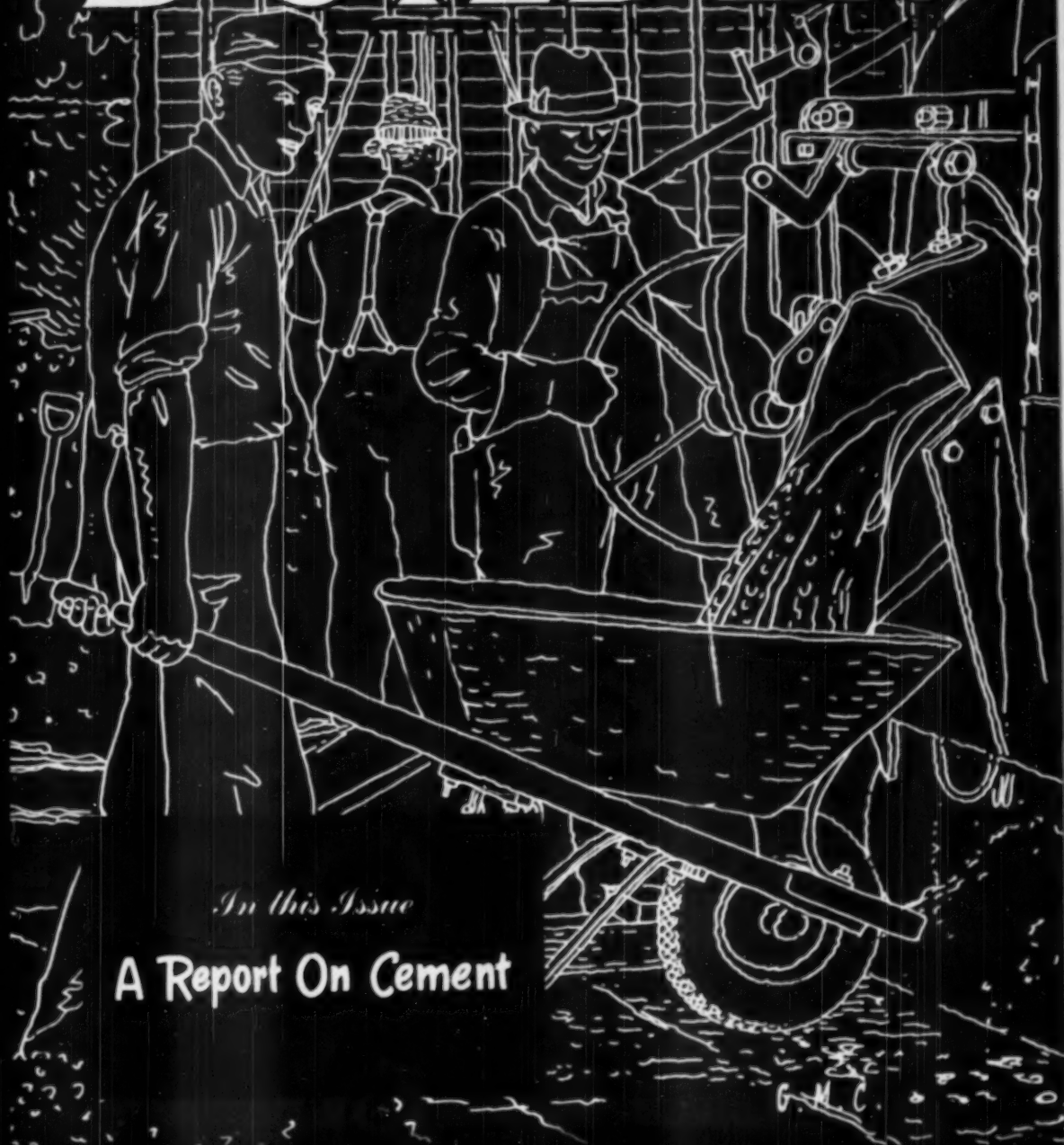


AMERICAN BUILDER

JUNE 1950
PRICE 50 CENTS



In this Issue

A Report On Cement

*One of 16 most popular homes
is a good house to*
FEATURE AND SELL



IF YOU SPECIALIZE in the erection of small homes, you will want to know what we mean by the "16 Most Popular Homes".

Your 4-Square Lumber Dealer will be glad to show you these homes and their working drawings. At the same time he will show you the scores of other carefully planned designs in the Weyerhaeuser 4-Square Home Building Service.

He will tell you that on the basis of homes selected and blueprints ordered, these 16 homes have proved "most popular" . . . that a popular home is a good home to feature and sell.

Your 4-Square Lumber Dealer will also show you the homes that have been added each month to the

Service since the popularity rating was established . . . designs that are nationally advertised each month in the leading home magazines, and about which thousands upon thousands of prospective home owners write for details.

You will like these homes . . . all are modern in concept . . . all are architect-designed and engineered by Weyerhaeuser. They are planned for greater home value . . . engineered for economical construction. Builders who erect them, find them to be practical in construction and easy to sell.

Blueprints, material lists and easy estimating forms are available through your 4-Square Lumber Dealer. Ask to see them.

Weyerhaeuser 4-Square

LUMBER AND SERVICES

WEYERHAEUSER SALES COMPANY, SAINT PAUL 1, MINNESOTA

**Build for Greater Value with the
4-SQUARE BUILDING SERVICES**

YOU SAVE

9

STEPS...

YOU AVOID THIS:

1. Cut and fit jambs.
2. Cut and fit stops.
3. Cut and fit trims.
4. Mortise frame and door for hinges.
5. Mortise frame and door for locks and strikes.
6. Cut and fit door.
7. Countersink holes.
8. Putty holes.
9. Prime-point.

YOU SIMPLY DO THIS:

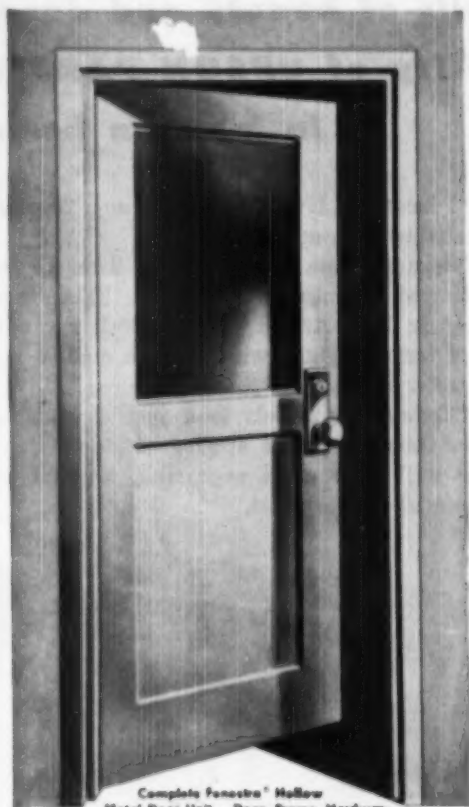
1. Bolt the strong, steel frame together.
2. Attach frame to floor and walls.
3. Screw on template locks and hinges.
4. Hang the door.

Fenestra

WHEN YOU INSTALL

Fenestra

METAL DOOR UNITS



Complete Fenestra® Hollow Metal Door Unit... Door, Frame, Hardware

Mortising, drilling, tapping and prime-painting of Fenestra Doors are factory-done. Each beautiful door comes to you complete with strong, steel frame and shining hardware. Installed in a matter of minutes.

Your first cost is less because Fenestra's great plant can turn out so many doors... with such smooth efficiency.

Maintenance cost is less because Fenestra Hollow Metal Doors can't sag or splinter or warp or swell... and an occasional coat of paint keeps them looking like new.

Each Fenestra Door is packed with insulation for quiet performance. Each is wrapped to protect the gleaming finish.

Order now for shipment within 2-3 weeks of the receipt of your order. You can also get Fenestra Doors with the Underwriters B Label. Call your Fenestra Representative (listed in your yellow phone book) or write Detroit Steel Products Company, Department AB-6, 2260 East Grand Boulevard, Detroit 11, Michigan. *Trademark

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Another Outstanding Lumber Dealer

G. E. CARTER

owner, Builder's Lumber Co.,
Port Arthur, Texas

**tells of beauty and dura-
bility of UPSON PANELS
in his own home**

"I have sold Upson Panels for over 25 years to satisfied customers.

"Several years ago I applied them to the walls and ceilings of my home, 2114 Sixth Street in Port Arthur, Texas. Both my wife and I were delighted with the rich quality and character which these panels produce.

"Today, the panels look just as good as when they were first applied. I don't think they will ever need repairing, beyond an occasional coat of paint."



Upson full-wall Strong-Bilt Panels beautifully give added value to hundreds of thousands of America's homes. Above is a view of Mr. Carter's living room.



Paneled walls are particularly appropriate in dining rooms. Here again, Mr. Carter has utilized the full advantages of Upson Panels to secure dignity and beauty.



Carpenters: There are jobs waiting for men skilled in the application of Upson Panels. Lumber Dealers everywhere endorse this product—use it in their own homes.

mail this coupon today ►

THE UPSON COMPANY

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I am interested in knowing more about ☐ Upson Strong-Bilt Panels for new construction ☐ Upson Kove-Kwik Panels for re-covering cracked ceilings. Send me your booklet "New Interiors For Old" and Instruction Sheets.

NAME

TYPE OF BUSINESS

STREET

CITY STATE

AMERICAN BUILDER

IN YOUR JULY ISSUE

Kitchens — Bathrooms — Laundries. Latest information on appliances, equipment, fixtures, wall and floor coverings, lighting, wiring, ventilating, storage and good planning for these important rooms in the modern home. All selected and edited for ready use by the busy builder.

American Builder's prize homes engineered by America's leading kitchen and bathroom experts. A complete word and pictorial presentation with reasons for the layouts.

Five distinctive exterior treatments from one floor plan. A full eighth-inch scale blueprint of a small ranch style house. A wealth of down-to-earth "How-to-do-it material" plus *American Builder's* famous better detail plates for both commercial and house construction.

Don't miss these informative features.



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HOW TO SAVE UP TO \$100 AND 3 WORKING DAYS ON EVERY HOME YOU BUILD

■ Harry Durbin of Detroit, Mills and Sons of Chicago, J. C. Nichols Company of Kansas City, and thousands of other builders are enthusiastic users of Bruce Finished Floors. And no wonder! They save up to \$100 and at least 3 working days on every home built . . . because this factory-finished strip flooring completely eliminates costly, time-consuming sanding and finishing on the job. It's ready for use as soon as it's laid!

Home Owners Praise Bruce Finish

Home owners prefer Bruce Finished Floors because they're more beautiful, longer wearing, easier to maintain. The new Bruce factory-finish is, by all tests, the finest finish ever given hardwood floors. It can't be duplicated by on-the-job finishing methods.

Make Your Own Price Comparison

Ask your lumber dealer or write us for prices and complete information on Bruce Finished Floors. Then figure your own installed costs as compared with the use of unfinished flooring, plus sanding and finishing. You'll be convinced too!



"SAVE 10¢ PER SQUARE FOOT"
... says L. H. Mills of Mills & Sons,
leading Chicago builders

"We are installing Bruce Finished Floors in all our projects. Our experience with your product now covers over 1200 homes, and the general and continued enthusiasm of buyers is gratifying to us. Savings are 10¢ per square foot, plus a further saving in time."



"3 LESS WORKING DAYS PER UNIT"
... says Harry J. Durbin, well-known
Detroit builder

"Our records covering 10 years' experience with Bruce Finished Floors show that elimination of sanding and finishing has saved an average of 3 working days per unit. In addition, we now save \$80 per house on cost of the completed floor."



Prefinished

BRUCE STRIP FLOORS

With the famous "Scratch Test" Finish

Product of E. L. Bruce Co., Memphis, Tenn., World's Largest Maker of Hardwood Floors

Bruce Also Makes Ranch Plank Flooring, Block Flooring, Strip Flooring, Random width Planks, Hardwood Moulding and Trim, Pine and Hardwood Lumber, Furniture Parts, Cedarline Closet Lining, Everbond X Mastic, Terminix, Floor Care Products.

AMERICAN BUILDER

Publisher's Page



Why Are Taxes Higher in Time of Peace?

THE American people are paying more total taxes in 1950, five years after the end of the war, than they paid in the peak war time year! This fact, which to most persons will seem incredible, was proved recently by former Senator Arthur Capper of Kansas in an article in the Hearst newspapers. He showed that total taxes paid the federal, state and local governments reached a war-time peak in 1945 of \$52½ billions, while total taxes being paid them in 1950 are \$55 billion. And, in spite of this, the federal government is incurring a deficit of about \$5 billion a year, because of spending that much more than the enormous taxes it is collecting.

Most people have no idea how much government is costing them. Taxes are both *direct* and *indirect*. Most people don't know even how much total *direct* taxes they are paying, because they don't ascertain how much for taxes their employers deduct from their pay. And almost nobody knows how much indirect taxes he pays, because scores and even hundreds of taxes are included and concealed in the prices of everything we buy.

The Tax Foundation has ascertained there are 151 tax payments hidden in the price of a loaf of bread, and about an equal number in a new Easter hat. There are 116 taxes in a man's new summer suit and 100 in an egg, starting with a tax on the feed of the hen that lays the egg. The 149 taxes on the par-

ticular hat surveyed were 65 federal, 43 state and 41 local, and were paid by eleven different companies that had a part in making, transporting and selling the hat.

In 1913 total taxes, federal, state and local, were only 5 per cent of the national income. In view of what has occurred since, it is significant that 1913 was the first year that taxes on incomes were constitutional. In 1929 total taxes were 13 per cent of the national income. In 1950 the \$55 billion being collected is 25 per cent of the national income, and averages about \$366 per individual, or \$1,464 per family of four. So since the first income taxes were collected in 1913 total taxes have risen from *one-twentieth* of the national income to *one-fourth* of it.

This terrific and continuing increase in taxes is due to corresponding increases in the expenditures of all our three kinds of government. While within recent years many persons have been inveighing against the colossal increases in federal expenditures, which have been largely due to war, they have been ignoring the huge increases being made right under their noses in the expenditures and taxes of their state and local governments which have not had to bear the costs of war. Total taxes collected by the state governments increased from \$3,360 million in 1937 to \$8,342 million in 1948, or almost 150 per cent.

Who is responsible for all these

great and burdensome increases in government spending and taxing, a continuance of which will inevitably destroy the American system of political and private enterprise?

The politicians who usually are given the blame for it? Yes, in large measure. But those having at least nine-tenths of the responsibility are those who pay the taxes—the people themselves, poor, middle class and rich. The politicians don't make any expenditures that they think the people don't want made. And when most of the people show active opposition to reckless government spending, instead of continuing to demand that the politicians shall buy the people's votes with the people's own money, there will be a reduction of spending and taxing. And don't let anybody give you that old bromide about the requirements of national defense making it impossible largely to reduce spending and taxing. The state and local governments don't have to provide for national defense; and their greatly inflated expenditures plus the non-defense expenditures of the federal government afford opportunity to reduce taxes several billion dollars a year.

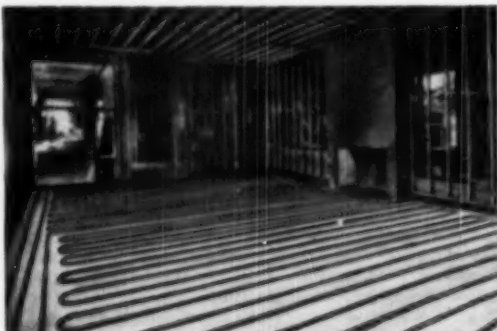
Why isn't it done? Don't the people want it done? Yes, but almost every voter opposes reduction of every expenditure by which he believes he benefits. The true reason why government expenditures and taxes are not reduced is that so many people like having their votes bought with their own money.

American Builder is published by the SIMMONS-BOARDMAN PUBLISHING CORPORATION, with editorial and executive offices at 79 W. Monroe St., Chicago 3, Ill.; 30 Church St., New York 7, N.Y. Samuel O. Dunn, Chairman of the Board; James G. Lyne, President; Robert H. Morris, C. J. Weigman, F. A. Clark, Vice Presidents; J. S. Crane, Vice President and Secretary; John T. DeMott, Treasurer.

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Samuel O. Dunn

LARGE RESIDENCE DESIGNED BY MARCEL BREUER—RADIANT HEATED with CHASE COPPER TUBE!



HERE'S WHY

you too will want Chase Copper Tube
in your Radiant Heating Installations!

EASY TO BEND • LONG LIFE • LONG LENGTHS
SOLDERED FITTINGS • LOW COST • LIGHT IN WEIGHT
SMALL DIAMETERS

Residence in Ligonier, Penna., is heated by coils
using 6000 feet of 1" Chase Copper Tube. Outdoor
piping and water supply lines use 1500 feet in sizes
from 1/2" to 2". Architect: Marcel Breuer, New York
City. Engineer: Benjamin L. Spivak, New York City.
Plumbing and heating contractor: John Hall,
Ligonier, Penna.

FROM the finest of residences to economical
basementless houses, there's a growing trend
to radiant heating—with Chase Copper Tube.

Chase Copper Tube in coils, soft temper, is
easily bent without special tools. It comes in 60
and 100 foot lengths—the number of connections
is cut to a minimum. The joints are made easily
and quickly with solder-joint fittings.

Its light weight and small diameters make it
just as easily adaptable to ceiling installation as
it is to concrete floor slab construction. Its high
resistance to corrosion means long service life.

And it's available for immediate delivery!

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Waterbury 20, Conn.

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with Copper Tube."

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Street _____
City _____ State _____

SEND FOR FREE BOOK! "Suggestions
for Designing RADIANT PANEL HEATING
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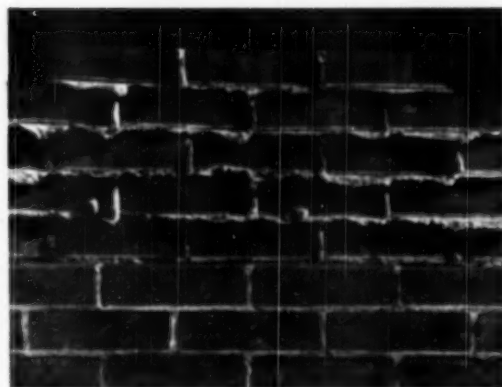
GOOD BRICKWORK = GOOD DESIGN + GOOD WORKMANSHIP + GOOD MATERIALS



The face brick should be backplastered.



If the back-up units are laid first, the front of the back-up units should be plastered.



Backplastering should not be attempted over protruding mortar joints.

PARGING WITH BRIXMENT

HELPS ASSURE DRY WALLS

WE SUGGEST THAT—

The face brick should be backplastered with not less than $\frac{1}{2}$ of an inch of mortar before the back-up units are laid.

Or, if the back-up units are laid first, the front of the back-up units should be plastered with not less than $\frac{1}{2}$ of an inch of mortar before the face brick are laid.

Hheavy rains don't make brick walls leak — they merely reveal the fact that the walls contain voids or passages through which the water may penetrate.

Dry brick walls are primarily the result of good design and good workmanship. Good materials are important, but still secondary. The more plastic the mortar used, the easier it is for the bricklayer to deliver good workmanship.

The photos at the left show some points of good workmanship.

Brixment mortar has greater plasticity, higher water-retaining capacity and better bonding quality. Because of this combination of advantages, architects, contractors and dealers all over America have for thirty years made Brixment the largest-selling mortar material on the market. Why not try it yourself?

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY



TOM HENDERSON
FAMOUS COLLIER'S CARTOONIST

"Boy, what-ta tight squeeze,
it's a good thing ...

Everything Hinges on Hager!"



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FOUNDED 1849 — EVERY HAGER HINGE SWINGS ON 100 YEARS OF EXPERIENCE

AMERICAN BUILDER

Home buyers go for pre-stained shakes!



for colorful, economical walls

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Architects, Builders and Lumber Dealers are finding that home owners like to choose from the wide variety of shake colors available. They like the double-coursing method because it makes use of inexpensive, low-grade cedar shingles for the concealed under courses. And they like the finished job, the rich appearance of combed cedar, penetrated with colorful stains. Take advantage of this popularity.



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STAINED SHINGLE & SHAKE ASSOCIATION - SEATTLE, WASH.

When this Window **COMES OUT**



Your Sales Story Really **SINKS IN**

• Home sales are easier and more profitable when R-O-W REMOVABLE wood windows are installed and properly demonstrated.

Women want the convenience of windows that can be removed for washing, painting, or access to storm sash and screens.

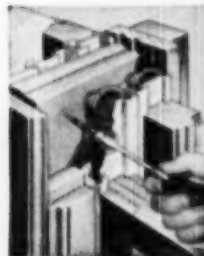
Women have been pre-sold by advertisements in BETTER HOMES & GARDENS, AMERICAN HOME, and SMALL HOMES GUIDE

SEE SWEETS or when in New York—stop at the Architect's Sample Corp.

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Opens Easily

Weatherstripped



Exclusive spring cushion construction automatically adjusts for weather changes; windows cannot rattle or stick even in cold or wet weather.

For dramatic display and merchandising tie-ins for easier demonstration and easier sales—Fill out and mail the coupon today:

R-O-W SALES COMPANY

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PLEASE Send more information on R-O-W—the window with sales appeal.

I am
☐ Architect
☐ Builder
☐ Dealer
☐ Carpenter-Contractor
 Name _____
 Company _____
 Address _____
 City _____ Zone _____
 State _____

Again the choice for faster, easier, low-cost erection...



The 83-acre Shirley-Duke project is the largest post-war apartment development near the nation's capital. Credit for its conception and pre-planning goes to Mr. Don A. Loftis, who arranged for land purchase, financing and builders.



STRAN-STEEL NAILABLE FLOOR JOISTS

USED THROUGHOUT HUGE 2106-UNIT
SHIRLEY-DUKE
LOW-COST APARTMENT PROJECT



Builders of the large, low-cost Shirley-Duke 200-building project specified Stran-Steel Nailable Floor Joists throughout for quicker erection, quicker occupancy—lower costs. Rents start at \$59.75, go to \$72.50 for two-bedroom unit.

Use of Stran-Steel nailable floor joists throughout suburban Washington's 2106-unit Shirley-Duke apartment project speeded erection time... permitted quicker occupancy... helped bring in rents faster.

Cost of installation was less than usual because no special construction personnel was needed. This saving in manpower and time was further augmented by the patented *nailing groove* found in Stran-Steel framing members, and because of its sag-proof, rot-proof and fire-proof qualities—advantages which allow low insurance rates and assure minimum maintenance costs.

Stran-Steel nailable floor joists bring to the Shirley-Duke project *proved* quality, strength and durability... keep expenses down, help make possible the low rentals which feature this development.

If you are planning a similar multi-unit garden-type apartment project, or any other new residential, commercial or industrial construction, it will pay you to investigate the proved advantages and economies of Stran-Steel nailable floor joists.

Joist depths and gauges available for normal span and load requirements.



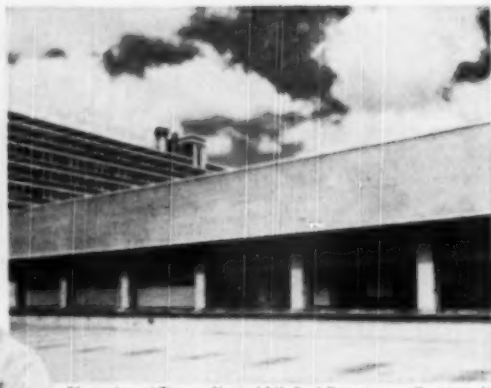
GREAT LAKES STEEL CORPORATION

STRAN-STEEL DIVISION • ECORSE, DETROIT 29, MICHIGAN
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quick, quiet...



29 openings of Truscon Vertical Lift Steel Doors (manually operated) in the Sears-Roebuck warehouse, Dallas, Texas. George L. Dahl, Architect, Dolph Construction Company, Contractors. In both the electrically- and manually-operated types of Truscon Vertical Lift Steel Doors, the leaves are perfectly balanced by counterweights to assure easy operation and control in any position.

Truscon Vertical Lift Steel Door in closed and open position, Chrysler Corporation Building, Highland Park, Michigan. O. W. Burke Co., Contractor, Albert Kahn Associates, Architects and Engineers.

for small or big openings

The door requirements of garages, warehouses, loading platforms, factories and other commercial structures can be served with high efficiency by Truscon Vertical Lift Doors. The flick of a finger starts the electrically-powered door leaves sliding vertically upward, with silent speed, to any height desired. The bottom leaf rests behind the plane of the top leaf, and moves simultaneously with it but at twice the speed. Strong construction of hot-rolled new billet steel provides durability to resist crashes and other accidental injury. Write for illustrated literature describing types and sizes available.



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TRUSCON STEEL COMPANY

Schubert Division of Republic Steel Corporation

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Warehouses and sales offices in principal cities

CHECK THESE "plus qualities" IN NATIONAL ELECTRIC BUILDING WIRE

Extra features—built into
all National Electric Building Wires—are the "plus qualities"
that make NE wire the most outstanding
on the market today.

HERE'S WHAT YOU GET —

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(Types R, RW, RH)—Rubber insulated
building wire that offers electricians clean
handling.

- ✦ "Dilec" provides 100% covering of insulation
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(Type TW)—A superior building wire for
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- ✦ Moisture resistant
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- ✦ Abrasion resistant
- ✦ Wide choice of bright, permanent colors for easy identification
- ✦ Easy fishing

- ✦ All National Electric Building Wires are clearly marked with size, type and voltage every two feet for ease of identification.

- ✦ NE Building Wires greatly exceed Underwriters' Laboratories, Inc. requirements.

Sold through leading electrical wholesalers



National Electric Products Corporation

1329 CHAMBER OF COMMERCE BUILDING

PITTSBURGH 19, PA.

JUNE 1950

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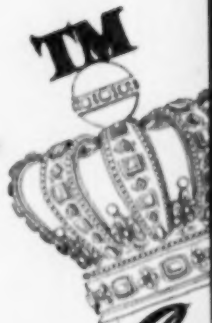


- ✦ This unique wire carton, original with NE, permits easy handling on or off the job. Simply remove the center circle, pull out the wire, cut off what you need. The unused wire remains in the box, clean and untangled.

now



Honeywell
with magic



Crowning 65 years of development

now provides **Thermostat Magic**
on all Honeywell *Comfort* Thermostats

Yes, the magic of TM is provided on the entire line of Honeywell Comfort Thermostats...at no increase in cost. Home buyers will appreciate this new standard of comfort, the velvet smooth flow of natural warmth...all provided by the magic of TM. Home owners want the best...for greater comfort. Buyers of your homes want Thermostat Magic!

For a big, new sales feature, install Honeywell TM in all your homes.

*TM means **Thermostat Magic**



TM *Tested and Approved*

300,000 TM thermostats now in use—many for three heating seasons—have demonstrated the comfort advantages of the Honeywell TM principle. Home owners are enjoying a new standard of heating comfort—made possible by Honeywell scientific research.

TM *Meters the Heat*

Controlled frequency of burner operation provides an even flow of heat under all conditions. Thermostat Magic means more than thermostat accuracy—it means maximum heating comfort and efficiency—**at no increase in heating cost.**

TM *Thermostat Magic means:*

No More Waiting for Heat

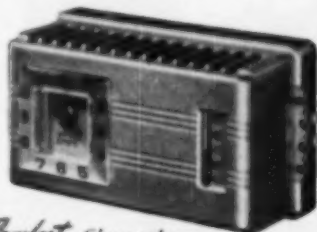
No More Chilly Floors

No More Overheating

No More Fuel Used — instead
More Comfort For Your Heating Dollar

TM *means*

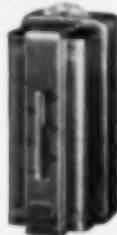
***Thermostat Magic at
no increase in heating cost!***



TM *Comfort Chronotherm* *

The well-known electric clock thermostat—automatically provides lowered night temperatures and morning pick-up. NOW better than ever with the Thermostat Magic of TM.

*Available in a few weeks.



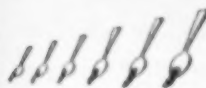
TM *Comfort Time-O-Stat* **TM** *Comfort Acratherm*

For lowered night temperatures. Set the dial for the morning pick up time you select—wake up in a comfortably warm house. The Time-O-Stat now assures pin point control through the Thermostat Magic of TM.

The finest thermostat of its type in the world. Featuring the easy-to-read dial adjustment, precision control—and NOW, Thermostat Magic with Honeywell TM.

*The
heating
element*

TM *keeps the heat coming in regulated portions*



TM furnishes the required heat by properly regulating the length of burner operation in accordance with outside weather conditions—longer in cold and shorter in mild weather. Comfort always!



Long and irregular burner operation permit up and down temperatures—allow rooms to get too hot or too cold for comfort. The varying temperatures cause sensations of drafts and chills. Discomfort!

MINNEAPOLIS
Honeywell

FIRST IN CONTROLS



How to Make a Home

It's easy to bring nature right into the home with Ceco Picture Windows of Steel to make each room truly live. There's movement in the murals of the vibrant outdoors framed by these handsome window creations. Distant views, ever changing with the mood of the hours, bring relaxing thoughts and a sense of better living. All this is possible because there's less interruption of vision. The eye is drawn easily to the outside world of motion—barriers are minimized due to slender frames and muntins. And to have Ceco Steel Windows is to know truly sound value. They're engineered to

**CECO
STEEL**

In construction products **CECO ENGINEERING**



**Advantages of
Ceco Steel Casements**



Controlled ventilation
up to 100%



Easy to open and close
Can't stick or warp



Easy to wash
from inside



Easy to screen
from inside

Come Alive...

provide the tightest weatherseal ever—with extra strength built in—sections are $1\frac{1}{16}$ inches deep. Yes, when you build with Ceco Steel Windows, you know you've used the very best—you're sure of economy too—you're modern as tomorrow.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

makes the big difference

SCHLAGE®

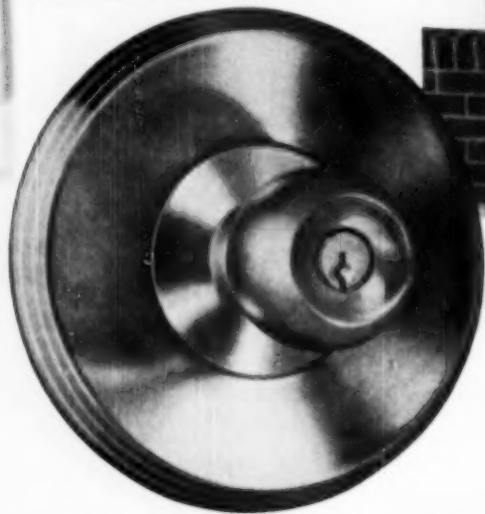
Entrance Door Distinction

created by
Schlage "long backset"

Use of impressive, large escutcheons is made possible by the Schlage "long backset." Here is a new and notable design factor for dramatic treatment of flush panel doors. Schlage "long backset" locks are easy to install — have the dependable Schlage mechanism — proved by more than a quarter century in use. Do you have the new Schlage brochure illustrating "long backset" locks and designs? You may have your copy by sending for Booklet No. AB-630.

For Flush Panel Doors

The distinctive Schlage Saturo design lock — set off by the 5" Backset — and supplemented by the beautiful Riviera escutcheon.



SCHLAGE®

SCHLAGE LOCK COMPANY

BAYSHORE BLVD.,
SAN FRANCISCO

EMPIRE STATE BLDG.,
NEW YORK

SCHLAGE . . . FIRST NAME IN CYLINDRICAL LOCKS



It Took A BUILDER'S ACCIDENT To Make This Nail Test

The setting was perfect for a nail comparison test: A Cape Cod home built in Barnstable County, right where salt air weathering would "tell" on ordinary nails. But it took an accident on the builder's part, an unintentional mixup of ordinary roofing nails with Maze "Zinclad" nails, preferred by the builder, to prove "Zinclad" superiority.

Eight years later, shingles on one portion of the roof went bad. Examination proved that the loose and rotten shingles had been laid with ordinary nails which rusted. The remaining

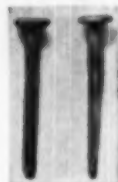
shingles, still held perfectly tight, had been laid with "Zinclad" nails.

No test planned in advance could have more definitely convinced the building trade of the advantage of weather-proof nails (actually dipped in molten zinc). According to hundreds of "in-use" tests made by the W. H. Maze Co., "Zinclad" nail manufacturer, the heavier zinc coating from the hot-dipped process brings much longer life to the nail, and to the project on which the nail is used.

At left: Here's the Cape Cod home where ordinary roofing nails were unintentionally mixed with Maze "Zinclad" nails. Shingles became loose and rotten — only where the ordinary nails had weathered. "Zinclad" nails were still rust-free, holding shingles tight.



At left: Salt-laden Cape Cod weathering did this to ordinary shingle nails. (Actual photo.)



At right: The heavier uniform coating of Maze "Zinclad" nails prevented rust. (Actual photo.)



Customers readily identify Maze "Zinclad" nail current which bears the stamp "Hot Dipped."

WEATHER-PROOF NAILS FOR BIGGER SALES!



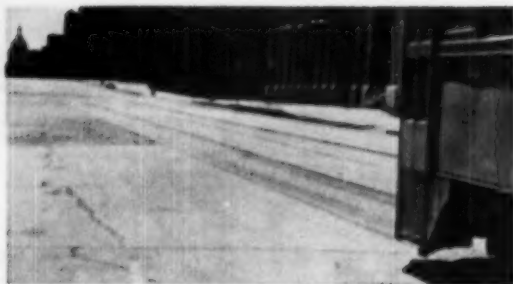
IF THEY'RE MAZE "ZINCLAD," THEY'RE HOT-DIPPED FOR A HEAVIER COATING, LONGER LIFE

The difference is in WEATHER-PROOF WEAR! Maze "Zinclad" nails are hot-dipped in pure molten zinc for a much heavier coating than usual galvanized nails. You pay just a few cents more for a LOT MORE in nail life, weather-resistance, no discoloration in the years ahead. Every type: Roofing, shingle, spiral, butt, asphalt, siding, common, cribber. See your dealer, or write for samples, literature.

OTHER MAZE MADE NAILS: Lead head, pallot, bronze and stainless steel asbestos face, galvanized roofing, painted asphalt siding, copper, screw, ring chunk, and lead head roofing fasteners.

Zinclad

W. H. MAZE COMPANY



Ten Years Ago...

this test paving was laid in Minneapolis—the first commercial use of Atlas Duraplastic air-entraining cement. Badly scaled background section was made with regular cement. Foreground concrete was laid at the same time with Duraplastic. Here are both sections, photographed ten years later, after ten severe winters, heavy applications of de-icing salts and many freezing-thawing cycles—convincing proof of Duraplastic concrete's lasting durability. Longitudinal structural crack shows some raveling. Note perfect transverse joint.



Today...

Premont Apartments, Chicago, Ill. Duraplastic used throughout in concrete columns 12 feet deep with network of steel bars and beams. No sign of water gain or segregation. Contractors report a smooth surface free of blowholes or air bubbles. Architects: Mies van der Rohe; Pace Associates; Hofman, Rubman, Kiskamp & Taylor; Structural Engineer: Frank J. Rauscher; Contractor: Peter Hambro Construction Company—all of Chicago.



Send for new free booklet, "A Decade of Duraplastic Air-Entraining Cement." Write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., New York 17, N. Y.

**for extra durability...
modern structures
are built with
ATLAS DURAPLASTIC***

That first test paving began a new era in concrete construction. As successful installations with Atlas Duraplastic have multiplied, so have the number of engineers and contractors who rely on its extra durability and improved performance for structural work. An outstanding example is this new apartment building, designed for simple beauty, constructed with Duraplastic by the most modern, economical methods.

Over the last ten years, Duraplastic's advantages have been applied to all types of mass and structural concrete—for foundations, walls, columns, and floors. It's ideal for slip-form, gunite, stucco and similar uses.

With Duraplastic, less mixing water is needed for a given slump. The resulting mix is more plastic, more workable, more uniform and more cohesive. It's easy to place and finish. Water-gain and segregation are reduced. Surface appearance is improved and has higher resistance to the effects of weather-exposure.

For structural concrete needs of today and tomorrow, Duraplastic offers better concrete at no extra cost. It provides the precise amount of air-entraining agent interground with the cement for satisfactory field performance. It complies with ASTM and Federal Specifications, sells at the same price as regular cement and calls for no unusual changes in procedure.

OFFICES: Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

*"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

AS-D-103

ATLAS DURAPLASTIC

AIR-ENTRAINING PORTLAND CEMENT

MAKES BETTER CONCRETE AT NO EXTRA COST

TRADE MARK REG. U. S. PAT. OFF.



"THE THEATRE GUILD ON THE AIR" — Sponsored by U. S. Steel Subsidiaries — Sunday Evenings — NBC Network

*Not a penny extra for
these extra quality features...*

of Russwin tubular locks and latches

Nothing extra on the price tag but a lot extra inside these Russwin tubular locks and latches . . . 7 extra features that save you money and give the owner more for his money. Easy to install, reversible for any hand of door. Exclusive Russwin all-steel rack and pinion latch stays smooth, trouble-free for life. See the complete line at your nearby Russwin dealer's. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

Illustration shows Weborn design in "Keynote" line of tubular locks and latches

RUSSWIN *dealers always have the edge...*



EVERY HOUSE NEEDS

SISALKRAFT PRODUCTS

FOR INSULATED DRY WALLS

VAPOR SEALED
FROM THE
Inside

SISALATION provides BOTH insulation and vapor-barrier... helps prevent passage of harmful moisture-vapor through side-walls from inside the house.

SISALATION
REFLECTIVE INSULATION

SISALKRAFT
PROTECTIVE SHEATHING PAPER

SIDING OR BRICK VENEER

WEATHER SEALED
FROM THE
Outside

Rugged, waterproof SISALKRAFT over exterior sheathing prevents passage of wind-driven rain into walls from the outside.

SISALATION (Reinforced, Waterproof, Reflective Insulation) plus SISALKRAFT (Reinforced, Waterproof, Protective Sheathing Paper) combine the advantages of insulation, vapor-barrier and weather-protection at very lowest cost. They help stop penetration of harmful moisture-vapor into walls from inside, while also stopping passage of moisture and wind from outside. (Meets FHA Vapor-Barrier Requirements, Class A, Federal Specifications UU-P-47).

In addition, SISALATION, bowed in between studs, provides two insulating air spaces, plus its reflective insulating surfaces, to help keep homes warmer in winter and noticeably cooler in summer. Heavily reinforced by cross-laid sisal fibres of steel-like strength, SISALATION and SISALKRAFT both remain permanently and effectively in place, for the life of the building. Here is dependable, quality construction with real economy!



USE SISALKRAFT ALSO UNDER ALL FLOORING, UNDER CONCRETE SLABS, FOR CURING CONCRETE, and FOR GENERAL PROTECTION

Write today for specifications and samples of SISALKRAFT products.

THE SISALKRAFT CO.
CHICAGO 6 • NEW YORK 17 • SAN FRANCISCO 5

The SISALKRAFT Co., Dept. AB6, 205 W. Wacker Drive, Chicago 6, Ill.

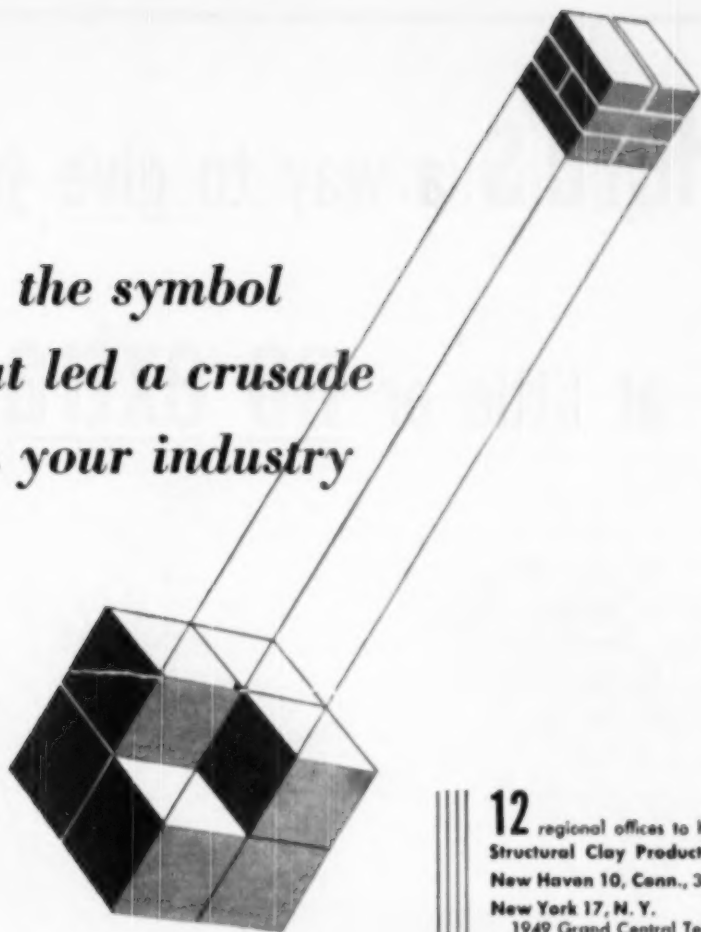
Please send full information and samples of SISALATION and SISALKRAFT. I am an ☐ Architect ☐ Realtor ☐ Contractor ☐ Other

Name

Address

City, Zone and State

*the symbol
that led a crusade
in your industry*



Until 1943 modular coordination was merely a fine idea. It had no real backing in the building industry.

Then SCPI—the first industry to recognize the great potential of modular coordination and support it on an industry-wide basis—announced that brick and tile would be manufactured in units of the four-inch module.

The symbol you see here dramatized this announcement and gave new meaning and great prestige to modular coordination.

Today other products are following this lead. Building materials, home furnishings, decorating and other businesses allied to the creation of a building have responded by making their products also available in modular sizes.

The result—more building, better building, faster building—at greatly reduced costs.

We can be of real help to you when you want to plan or build modular. Your regional SCPI office is an authority on modular coordination and on every use of brick and tile. We'll be pleased to have you call on us at any time.

NEW SCPI DIRECTORY: Write to your regional SCPI office for this handy reference source. Gives you names and addresses of SCPI member companies, types of brick and tile each makes, and other valuable information for users of Structural Clay Products.

- 12** regional offices to help you —
- Structural Clay Products Institute**
New Haven 10, Conn., 341 State St.
New York 17, N. Y.
1949 Grand Central Terminal.
- Philadelphia, Pa.,** 1518 Walnut St.
Canton, Ohio, 306 Market Ave., No.
Pittsburgh 22, Pa.
502 Benedum Trees Building.
- Chicago 1, Illinois,** 228 N. La Salle St.
Ames, Iowa, 120½ Welch Avenue.
Denver 2, Colo., 208 Kittredge Bldg.
San Francisco 5, Calif.
55 New Montgomery Street.
Seattle 1, Wash., Central Building.

Clay Products Association
of the Southwest

Austin, Texas, Littlefield Building.
Oklahoma City, Okla.
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MAIN OFFICE

STRUCTURAL CLAY PRODUCTS INSTITUTE

1520 18th Street, N. W., Washington 6, D. C.

SCPI

STRUCTURAL CLAY PRODUCTS INSTITUTE

Here's a way to give your clients
at little or **no extra cost!**



finest *All-Year* air conditioning

These simple economies can offset its cost—

Many of the customary features in a home no longer have functional value when *All-Year Air Conditioning* is included . . . such things as porches, fireplaces, screens, etc. So in your preliminary planning you leave them out. This way you'll generally save enough to make up the cost of the Servel system. And clients feel they're making a marvelous exchange. For while the things that are omitted provide comfort for only portions of the year, Servel provides them with ideal comfort *all year*.



NO SCREENS



NO PORCH



NO ATTIC FAN



NO FIREPLACE



LOWER-COST
WINDOW CONSTRUCTION

Tops in new-home comforts today is *All-Year Air Conditioning*. Year round, the air is healthfully conditioned all through the house. Year round, the humidity is carefully controlled to eliminate stickiness in summertime and the drying-out tendencies of winter. Year round, the air is filtered clean—free of dust, dirt and pollen. Bracing in summer. Cozy in winter. The flick of a finger brings instant results. And by making the decision to include Servel *All-Year Air Conditioning* early in the planning stages, you can give your clients this ultimate in comfort at little or no extra cost.

Recent studies indicate that the additional expense of the *All-Year Air Conditioner*—over and above a conventional heating plant—can be offset by eliminating some of the usual features in a house. For instance, a house designed for *All-Year Air Conditioning* needs no porch, no fireplace, and no attic fan. Outside doors and windows may be kept closed; in fact, in many cases the glass may be fixed which permits the use of a simple wood frame. Therefore screens are not needed. And in most parts of the country, the total of these savings will enable you to include Servel's *All-Year* system at little or no extra cost.

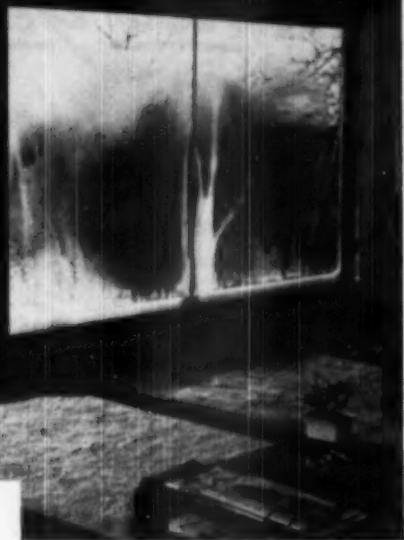
The Servel *All-Year Air Conditioner* can be easily adapted to *any* size, type, style or shape of home your client wants. Ask your local Gas Company for all the particulars or write to Servel, Inc., 1006 Morton Avenue, Evansville, Indiana.



Servel

All-Year AIR CONDITIONER

For jobs that click with customers...



WHAT A DIFFERENCE Twindow makes! Notice how the Twindow unit at the left gives clear vision. There's no fogging or condensation. On the other hand, single pane at right has an icy formation, indicating the high heat loss incident to this type of window. This is proof of the forthright advantages of Twindow. Shortly after this photograph was taken, another Twindow unit was installed to replace the single-pane window. Architect: H. S. Starin, Duluth, Minn.



A MANTEL MIRROR catches and reflects all the color, charm and movement in a room. It actually makes the room look larger, brighter. And a Carrara Glass hearth and mantel facing adds a touch of distinction. Available in ten attractive colors, Carrara harmonizes with practically any color scheme. It's an everlasting material, whose polished surface is easily kept bright and shining.

HERE'S A CUTAWAY VIEW of a Twindow unit, constructed with two panes of Pittsburgh Plate Glass. The hermetically-sealed air space between the panes provides effective insulation which minimizes downdrafts, cuts heat losses through windows, reduces condensation. When three or more panes are used, insulation is even more efficient. 45 standard picture window sizes are available, adaptable either for wood or steel sash.



Glass can help you!

YOU GIVE YOUR HOMES added sales appeal when you include a few courses of PC Glass Blocks. In the kitchen, for instance, they look smart and brighten up work surfaces and dark corners. PC Glass Blocks guard privacy, too. They reduce heat losses, exclude unwanted views.

Below

MERCHANTS APPRECIATE the greater sales-winning ability of "open vision" store fronts. For these large, unobstructed expanses of glass make the entire store interior a giant, magnetic display, attracting more passers-by and pulling them inside. Your customers know that Pittsburgh Glass and Pitco Store Front Metal are unexcelled for store modernization work. So, when you're bidding on a job, tell them that you're using Pittsburgh Products. It will make your selling task easier. Architect: Myrle E. Smith, South Bend, Indiana.



BUILD IT BETTER WITH—

Pittsburgh Glass



See the complete listing and descriptions of Pittsburgh Plate Glass Company products in Sweet's Catalog Files.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

JUNE 1950

29



Mack says... You'll open the **FITS-ALL** *Adjustable*

Our Newest Alacrome **FITS-ALL No. 5** *Adjustable Screen Door* **GRILLE**



Pat. Pending

The most beautiful, ornamental Fits-All Grille of them all! Its gracefully designed scrolls insure a wide sales appeal. Also fully adjustable for nearly all standard-size screen doors. Made of Alacrome metal with a permanent, silvery-satin finish that will not rust or tarnish. Note the ingenious patented holder in the lower right corner of the grille as installed on the door to the left. It permits easy adjustment of the scrolls to fit the door while being installed. Each grille packed in individual, attractive, fully illustrated display carton. We're sure this new grille will soon lead the field, so order your stock right away!

IDEAL FOR COMBINATION SCREEN-STORM DOORS

Our new FITS-ALL No. 5 Screen Door Grille is fully adjustable for many styles of screen doors. For example, on the combination screen-storm door shown at the left, the scrolls may be installed in both the upper and lower sections to create a striking effect. Such graceful designs have sales appeal as well as eye appeal!

COLORFUL, SALES- MAKING DISPLAY CARTON



Nationally Advertised



We tell the millions of readers in these leading national magazines to buy our products from you. Order today and keep well supplied!

Each grille is individually packed in this eye-catching, colorful display carton with complete instructions for installing and suggestions for arranging scrolls.

door to new sales with SCREEN DOOR GRILLES

THEY'RE PRACTICAL, POPULAR and PROFITABLE!

With the addition of the beautiful new **FITS-ALL** No. 5 our line of Fits-All Grilles is more complete, more eye-appealing than ever before! Now, your customers have an even wider choice of these attractive grilles.

Each one is fully adjustable to standard-size screen doors! Easily installed. Every Fits-All

Grille is artistically designed and made of Alacrome metal with a beautiful silvery-astin finish that won't rust or tarnish.

You'll want to have a complete selection of all 5 styles on display because when your customers see 'em, they'll want to buy 'em—so stock up **NOW!**



FITS-ALL NO. 1 → STANDARD GRILLE

ADJUSTABLE TO DOORS AND WINDOWS

This attractive grille will fit nearly any door. Its scissor-like, accordion action permits easy adjusting from 18" to 37" between stiles. Also used as a window guard to keep prowlers out . . . and to keep little children from falling out window. Packed 12 to carton—screws furnished.

← **FITS-ALL NO. 2** — Comes in pairs to fit the lower panels of doors with divided sections as illustrated. Fits doors from 30" to 36" in width. Also packed 12 to a carton.



FITS-ALL NO. FS

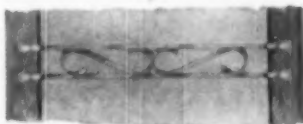
A new, graceful full-size grille. Two top bars are flexible to allow easy fitting to door. Packed 6 to a carton.

→ NO-WAY SCREEN DOOR GRILLE

A sturdy, attractive grille that anyone can install. Furnished in black enamel finish in 3 sizes to fit doors from 30"-32", 36" and 42".



NO-WAY PUSH GRILLE — An easy companion sale for screen door grilles. Fits above grille as shown at left. Made for 32" and 36" doors—packed 12 to carton.



Pat.
No.
2,083,013

Your order will be shipped same day received!

MACKLANBURG-DUNCAN CO.

OKLAHOMA CITY 1, OKLAHOMA



Quiet houses sell faster

When you can tell prospects that your houses have built-in quiet, you have a selling feature that arouses immediate interest. You can provide this feature with Armstrong's Cushiontone, a nationally known acoustical material now sold through lumber dealers.

Cushiontone is a perforated fiberboard acoustical tile made from the same raw material as Armstrong's Temlok. It has a smooth, white painted finish on both the face and beveled edges. In kitchens, basement playrooms, hallways, and other areas in the home, Cushiontone solves the annoying problem of noise and also serves as a practical interior finish.

Ceilings of Armstrong's Cushiontone are economical to install. In new work, plastering can be omitted, as well as papering or painting. In remodeling, Cushiontone can usually be applied right over the old ceiling surface.

You can profit now on the new popularity of noise-quieting for homes. Get full details about Cushiontone from your Armstrong lumber dealer or write to Armstrong Cork Company, 1606 Stevens Street, Lancaster, Pa.



Any carpenter can install Cushiontone



by nailing

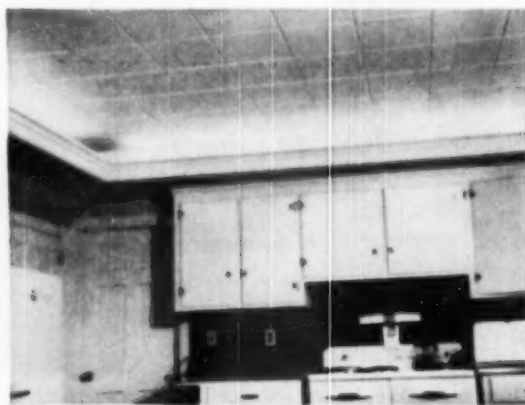


by cementing

Over bare joists, Cushiontone can be nailed to furring strips spaced 12" on centers. Over smooth plaster, concrete, or gypsum lath, it can be cemented in place with Armstrong's Acoustic Cement. Complete directions for installing Cushiontone are packed with each carton of the material.



Cushiontone ceilings stop noise in basement playrooms. A party here can be lively without being too noisy. Cushiontone absorbs up to 75% of all sound that strikes its perforated surface. Its attractive finish is washable and can be repainted without loss of noise-quieting efficiency.



In kitchens, where housewives spend much of their time, acoustical ceilings are especially practical. Armstrong's Cushiontone subdues the clatter of dishes and the noise of electrical appliances. In addition, its smooth, white surface affords good light reflection, without causing glare.

Armstrong's Building Materials

TEMLOK • INSULATING WOOL • MONOWALL • HARDBOARDS • CUSHIONTONE®

Letters to the Editor

Garage Cupolas

Sir: For months now, I have been watching each copy to see if you will include a detailed drawing of the now very popular cupola which you see on the roof of the double garage—like Walter Anicka would draw. I mean something in the right size and proportion for the house in the \$12,000 to \$15,000 class. Thru this part of the state they put a weather vane on top of it. One retired carpenter I know of makes them and sells them to install on an already completed house, fitting it to the slope of the roof. One man said to us—referring to the one on his new home—"that darned thing cost me over \$100."

I read with interest the house plan contest which you have conducted. The plans were good in some respects but too visionary and not down to earth enough for the middle income family to build and live in. I have often thought that a contest of plans sent in by housewives, who have lived with children in a home for, say, ten years, would yield more valuable and practical ideas of just what is needed as to size and storage spaces and laundry locations, working and eating areas, etc. A woman who works in the home knows better what is needed than a man or the young women who are studying architecture in a school. Maybe the housewife's drawing would not be as professional as those in the book—but the idea would be there.

Zoa Pixler,
Worthington, Ohio

Editor's Note: Watch for the better detail plate and other garage construction and design information in our August issue.

Rammed Earth

Sir: For approximately the last twenty years I have been a subscriber to your instructive and entertaining magazine, and can speak in only the highest terms of its merits in so many ways, especially to one interested in building, etc. On page 212 of April 1950 issue there is a letter from J. H. Cuddeford, North Vancouver, Canada, asking about "rammed earth houses" and I would like to tell you we have a few here built by S. O. Brune who I believe lives in one on St. Anne's Rd., St. Vital. It has been built about 12 to 13 years now and is still very good. I know he compacted

the special textured earth or clay and made a very solid home, ideal for the country as it is so fireproof; also the labor could be used profitably at that time. But since the war, laborers' wages advanced to such a high level it made it prohibitive to construct at a moderate figure and then as the second world war was upon us operations were not carried on although a few were privately built. I would like to get all possible information about rammed earth houses and will be looking forward eagerly for same.

F. D. Kernahan,
Winnipeg, Manitoba,
Canada

Editor's Note: For story on rammed earth houses see page 18a in May issue.

Distribution Channels

Sir: Your editorial on "Distribution Channels" in the March issue is very good. However, we do take one exception to it.

You set up a premise and then answer it by saying, "Thus, the only conclusion that can be reached . . . is that they have failed to keep pace with the development, etc."

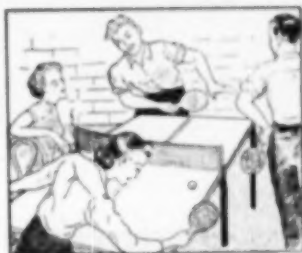
We contend there are two conclusions, the one you have stated and another that has often been discussed by our industry.

This is a matter of accounting. We just do not believe that they put their charges where they belong. We would like to give you a personal example: A house was to be built next door to our own; of course, we were anxious to sell the lumber on this job but in spite of all our figures, the contractor bought a carload lot of joist, sheathing, 2x4's, attic floor, and subfloor. The price per thousand was a number of dollars under our price of course, and the builder tried to contend he saved that difference. But did he? Certainly not.

In the first place, he had to pay the railroad the freight before he opened the car. Next, he hired a truck and hauled it over and unloaded it on the lot, and he did not have dump trucks either. Then he had to pay for the balance of the car—less the freight. If the items did not come out exactly right, he had to get his shorts from the local yard and if he was over, he had to have some place to store the material.

Now he sets to work to build the
(Continued on page 18b)

POROUS MASONRY STAYS TIGHT WITH KAY-TITE



FOR DRY
BASEMENTS
USE



Available in 50 lb. drums
White and 9 colors. Write

KAY-TITE

COMPANY
Box 550

West Orange, New Jersey



Top performance for tough jobs!

Chevrolet P*L Truck performance consists of many things. There is Chevrolet design—brilliant and functional—design with a purpose. There is Chevrolet construction—sturdy and dependable—for lasting usefulness.

And there is Chevrolet power—power to deliver the goods—more power than Chevrolet trucks ever had before. Two great valve-in-head engines—the Load-Master 105 h.p. and the Thrift-Master 92 h.p.—make these the most powerful Chevrolet trucks ever built.

These new P*L models are far ahead in features, too; yet they cost surprisingly little to buy, to operate, to maintain. And that adds up to value—the kind of outstanding value that year after year makes Chevrolet America's fastest selling truck.

CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT 2, MICH.

LEADING WITH ALL THESE PLUS FEATURES:

- TWO GREAT VALVE-IN-HEAD ENGINES: the New 105-h.p. Load-Master and the Improved 92-h.p. Thrift-Master—to give you greater power per gallon, lower cost per load • THE NEW POWER-JET CARBURETOR: smoother, quicker acceleration response • DIAPHRAGM SPRING CLUTCH for easy action engagement • SYNCHROMESH TRANSMISSIONS for fast, smooth shifting • HYPOID REAR AXLES—5 times more durable than spiral bevel type • DOUBLE-ARTICULATED BRAKES—for complete driver control • WIDE-BASE WHEELS for increased tire mileage • ADVANCE-DESIGN STYLING with the "Cab that Breathes" • BALL-TYPE STEERING for easier handling • UNIT-DESIGN BODIES—precision built.

CHEVROLET P*L*

ADVANCE-DESIGN TRUCKS

P*Popularity Leaders

Chevrolet trucks outsell all others. In every postwar year truck users have bought more Chevrolets than any other make—proof of the owner satisfaction they have earned throughout the years.

P*Performance Leaders

The new Chevrolet P*L trucks give you high pulling power over a wide range of usable road speeds—and on the straightaway, high acceleration to cut down total trip time.

P*Payload Leaders

The rugged construction and all-around economy of Chevrolet P*L trucks cut operating and repair costs—let you deliver the goods with real reductions in cost per ton per mile.

P*Price Leaders

From low selling price to high resale value, you're money ahead with Chevrolet trucks. Chevrolet's rock-bottom initial cost—outstandingly low cost of operation and upkeep—and high trade-in value, all add up to the lowest price for you.



AMERICAN BUILDER

Right
from

House Beautiful

BETTER your home . . . better your LIVING

A PREVIEW
OF THE SALES BUILDING
OPPORTUNITIES TO BE
FOUND IN
THE JULY ISSUE OF
HOUSE BEAUTIFUL
REACHING YOUR BEST
PROSPECTS ON OR ABOUT
JUNE 20th

ADVERT-TIES

FOR EASIER, MORE PROFITABLE SALES TIE-
IN YOUR FORTHCOMING ACTIVITIES WITH
THESE FAMOUS NAMES FEATURED IN THE
ADVERTISING PAGES OF JULY HOUSE
BEAUTIFUL MAGAZINE

INSULATION

1. HOMASOTE DRY WALL CONSTRUCTION
HOMASOTE CO.

SURFACING MATERIALS

- A. WALLS
2. MISSISSIPPI STRUCTURAL GLASS
MISSISSIPPI GLASS CO.
3. VITROLITE GLASS PANELING
LIBBEY • OWENS • FORD GLASS CO.
B. FLOORS
4. RUBBER TILE

DAVID E. KENNEDY, INC.
Rubber Tile, by the makers of Kentele, provides
quiet, luxurious floors of "cushioned beauty"
that won't wear out through years of use. No
other Rubber Tile offers all these beautiful colors
and exclusive, decorative ThermoTile and Feature
Stripes. 14 harmonized colors. David E. Kennedy,
Inc., 58 Second Avenue, Brooklyn, N. Y.

PAINTS

5. RAMUC FOR POOLS
INERTOL CO., INC.

AWNINGS

6. COOL-RAY ALL-WEATHER ALUMINUM
AWNINGS

COOL-RAY METAL AWNING CO.
COOL-RAY the improved, all-weather aluminum
awning starts promotion program with July
House Beautiful. Flu-type ventilation, sturdy,
suspension type construction makes Cool-Ray
stand out for sales appeal to home owners.
Custom colors, in solid or patterned design avail-
able. Also smart initials. For dealership in your
community and more information, write today.

SANITARY EQUIPMENT

- A. PLUMBING
7. CHURCH SEATS
C. F. CHURCH MFG. CO.

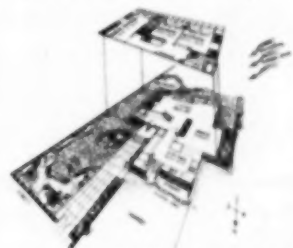
(Continued on next page)

CLIMATE CONTROL:

PAST & PRESENT

BEST OF EACH COMBINED IN HOUSE
FOR GULF COAST

The sixth of the series of regional climate studies, appearing in July *House Beautiful*, will furnish residents of the gulf coast, as well as other parts of the country, with enough selling points on climate-wise living to convince many of them that their present homes are inadequate. Study this New Orleans house, incorporating principles developed by *House Beautiful's* Climate Control Project, which emphasizes construction flexibility. It is carefully planned to take advantage of prevailing summer winds, permit



a maximum of cold weather sunlight and allow pleasant livability during torrential rains.

Because the gulf coast climate has many characteristics in common with other sections of the country, all architects, builders and building supply dealers will find the features of this house of assistance in solving design and construction problems . . . and selling their services to prospective consumers. Every month, more and more home-owners are becoming "climate conscious" because of the informative editorials *House Beautiful* is publishing regularly on Climate Control. And the architect and builder who adapt its principles to their own local conditions will be those who win their business.

And as an extra aid in winning that business, technical data on the gulf states region, as well as the five preceding areas, is available to the building trades through the cooperation of the American Institute of Architects. It can be obtained for 50¢ from Administrator, *House Beautiful's* Climate Control Project, 572 Madison Avenue, New York 22, N. Y.

PACE-SETTER

\$25,000 COAST HOME OFFERS
NEW SALES TOOL TO BUILDERS

The second of *House Beautiful's* three pace-setter houses for 1950 is graphically presented in the forthcoming July issue. Modestly priced at \$25,000, it offers livability that is seldom found in houses twice its price and planning ideas that every member of the building trades can use to good advantage.

Designed by Marcus Stedman and built by the David Bohannon Organization on an average-sized lot, this house has the looks, privacy, comfort and amenities of an estate. And even though it has been adapted primarily to the prevailing conditions of a California climate, its fundamental principles are universal enough to be utilized as sensible

(Continued on next page)

**RIGHT FROM
HOUSE BEAUTIFUL**

MORE ABOUT

PACE-SETTER

solutions to climatic problems in almost every other section of the country as well.

The extraordinary livability of the July pace-setter house is made pos-

sible by its emphasis on *House Beautiful's* three big building ideas of 1950. Sunny, wind-free outdoor living areas are available from early Spring until late Fall because of the attention paid to regional climate control in placing the house on its lot. The emerging American Style is characterized by its easy-going, easy-to-maintain appearance. Absolute privacy from neighbors and the street are obtained by the use of strategic fences and plantings.

MORE

ADVERT-TIES

(See preceding page)

8. LUSTERTONE SINKS
ELKAY MFG. CO.

9. NO DRIP TAPE
J. W. MORTELL CO.
B. GARBAGE DISPOSERS

9. REPUBLIC DUO-WAY DISPOSAL UNIT
AUTOGAS COMPANY

**HEATING, VENTILATING,
AIR-CONDITIONING**

10. FRIGIDAIRE ELECTRIC DEHUMIDIFIER
FRIGIDAIRE DIVISION, GENERAL
MOTORS CORP.

Builders use the amazing Frigidaire Electric Dehumidifier to cut drying time for paint or plaster almost in half. Home owners use it to protect storage rooms, workshops, game rooms, etc. It has scores of profitable business applications. It's portable and easy to install—plugs into any standard outlet. Write for illustrated folder, Frigidaire Div., General Motors Corp., Dayton 1, Ohio.

11. HGDUALAIRE PORTABLE WINDOW FAN
ILG ELECTRIC VENTILATING CO.

When you own an Hgdualaire double purpose fan and one of those terrific summer heat waves strike, you can sit back and relax in the shade-tree comfort of your own home. Sleep under blankets while others sweat. Your room temperature will drop as much as 20° with ILG fans.

12. OASIS AIR DRIER
THE EBCO MANUFACTURING COMPANY

New OASIS AIR DRIER reduces humidity, removes moisture up to 3 gallons a day from the air by means of electric refrigeration. Simply plug into any AC outlet. Watch the moisture disappear from any closed area up to 10,000 cubic feet. Sells for \$148.75 including 3-year factory warranty.

13. SNO-BREEZE AIR COOLER FANS
PALMER MFG. CO.

14. TORRINGTON MOVING AIR UNITS
BOOKLET
TORRINGTON MFG. CO.

15. VENT-A-HOOD KITCHEN VENTILATOR
VENT-A-HOOD COMPANY

Vent-A-Hood instantly removes cooking steam, grease vapors, odors and heat without interfering with air-conditioning or heating systems. Windows, walls, woodwork, furniture, retain fresh, clean, new appearance. Extended life of decorating plus savings on cleaning bills for rugs, draperies and furnishings more than pay for a Vent-A-Hood. Information and literature on request.

16. WILLIAMS OIL-O-MATIC
WILLIAMS OIL-O-MATIC DIV.
EUREKA-WILLIAMS CORP.

Which burner is best? "Compare—then decide!" says Williams Oil-O-Matic. Oil-O-Matic's candid "Buyer's guide" booklet: "There is a BIG Difference in Oil Burners" shows all types in forthright comparison. Oil-O-Matic burns ANY domestic fuel oil, including the new, heavier catalytic oils. Write Williams Oil-O-Matic Div., Eureka Williams Corporation, Bloomington, Illinois.

MAJOR APPLIANCES

17. PHILCO HOME FREEZER
PHILCO CORP.

KITCHEN CABINETS

18. COPPES NAPANEE CUSTOM BUILT KITCHENS
COPPES, INC.

WIRING & LIGHTING

19. CUTLER-HAMMER MULTI-BREAKER
CUTLER-HAMMER, INC.

OTHER STRUCTURAL MATERIALS

20. MARBLE FOR THE HOME
MARBLE INSTITUTE OF AMERICA

A new booklet "Marble For The Home" is made available for free consumer distribution by the Marble Institute of America, Inc., 108 Foster Avenue, Mount Vernon, N. Y. This capably illustrated booklet with images in full color is part of a new campaign by the Marble Institute intended to keep pace with a revived interest in marble for the home.

FENCES

21. HABITANT RUSTIC WOOD FENCES
HABITANT SHOPS, INC.

22. RUSTICRAFT POST & RAIL FENCE
RUSTICRAFT FENCE COMPANY

GARDEN EQUIPMENT & ACCESSORIES

23. AVON SPRINKLER
DIVISION OF GENERAL SCREW
MACHINE PRODUCTS, INC.

The Avon line of lawn sprinklers covers all sprinkling requirements. The Oscillating type is suitable for large areas of 1500 square feet or more, the rotary type for smaller areas and the upright Racer irrigator is ideal for gardens having tall flowers. Made by General Screw Machine Products, Worcester 4, Mass.

*** DONLEY OUTDOOR FIREPLACE UNITS**
THE DONLEY BROS. COMPANY

*** MAJESTIC OUTDOOR FIREPLACE UNIT**
THE MAJESTIC COMPANY

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*** PIONEER ELECTRIC POWER MOWERS**
LOUISVILLE ELECTRIC-MFG. CO.

24. SUNBEAM RAIN-KING SPRINKLER
SUNBEAM CORP.

Set it to sprinkle 5 to 50 feet automatically. Here, convenience your customers have always wanted in a sprinkler—desired distance and spray of a turn of a dial. Speed of the revolving arms breaks up the spray—provides a rainlike shower that's best for all lawns.

LAWN CARE PRODUCTS

25. SCUTL CRABGRASS ELIMINATOR
O. M. SCOTT & SONS COMPANY

SCUTL, a dry compound to safely "scuttle" crabgrass is being currently introduced to lawn-conscious home owners by O. M. Scott & Sons Co., Marysville, Ohio. Easy to apply without mixing or fussing with sprayer. SCUTL is broadcast from handy shaker box or with spreader. Packaged in the distinctive Scott style: 400 sq. ft.—\$5, 1,250 sq. ft.—\$1.95, 5,500 sq. ft. bag—\$4.85.

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saves me 10 to 30 minutes
per door!"*

**Builder's Time Studies
Show that Kwikset Locks
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Easiest Locks to Install!***

More and more builders all over America are recognizing the cost-saving features of Kwikset locks. They've found that Kwikset locks save them money two ways. First, Kwikset locks cost less to buy. Second, Kwikset locks cost less to install. Typical of the enthusiastic acceptance of Kwikset's simplified, time-saving installation is this unsolicited statement by a large builder of F.H.A. insured tract housing: "I make it a point to buy Kwikset for every door of every house I build. We've made detailed time studies of the length of time to install all popular residential locks and have found that Kwikset saves our men 10 to 30 minutes per door on installation time. The ease of installation coupled with low cost assures our continued use of Kwikset locks."

Compare These Kwikset Installation Features With Any Other Residential Lock

- ✓ Kwikset's tubular design permits simple, 2 hole installation—eliminates mortising
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- ✓ Kwikset's novel construction automatically compensates for different door thicknesses—saves installation time

Combine these time-saving installation features with Kwikset's striking beauty, high quality and low cost and there is little wonder why more and more builders say, "Kwikset locks save me money when I buy them... save me money when I install them!"

*Name and address available upon request.

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— LOW-COST MAINTENANCE, TOO**



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*Reg. U. S. Pat. Off.

GARDEN-TYPE apartments have caught the fancy of increasing thousands of families in a home-hungry nation—apartment homes like Great Neck Gardens, on Long Island's beautiful North Shore.

Construction has an eye to appearance and low-upkeep. Brick work is laid up with LONE STAR MASONRY CEMENT—providing the kind of dependable, high-quality mortar that means much to the mason who works with it . . . and to the builder and the owner, in fine appearance and expense-free service.

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Millions in the Building Field

Home Building Records Shattered

IF ENOUGH materials and labor are available starts of new homes this year can go to 1,500,000, 50 per cent above the million mark hit last year. Latest official reports of the Bureau of Labor Statistics show starts of 110,000 new nonfarm dwelling units during the month, an increase of 40,600 (59 per cent) over March 1949, the best homebuilding month in history. January, February and March housing starts totaled 270,000, greater by 59 per cent than the first-quarter volume for 1949.

What happened? The building industry wonders after the January through June slump of last year. In an effort to find the answer *American Builder* made a survey of the Cleveland area.

Cleveland is famed as the one per cent city. The metropolitan area contains approximately one per cent of the population of the United States and it has one per cent or more of almost everything else. From 1941 through 1949, a total of 54,848 dwelling units were started in the Cleveland area—1.1 per cent of all dwelling units started in the United States during the nine year period.

In 1949 a total of 11,760 dwelling units were started—1.1 per cent of the 1,025,800 dwelling units started in the United States. 1949's all time record was exceeded in the first three months of 1950 when housing starts were up an amazing 187 per cent!

Every builder interviewed reported that he had already contracted for all the business that he could handle this year. One said that the demand was so great he could sell holes in the ground.

Pace setters in the Cleveland area are the several builders who are turning out quantities of houses in the \$8,000 to \$15,000 class. One builder, who specializes in these homes, offers a 2-bedroom house with a washer and dryer, a heater, shower over the bath-

A million and a half 1950 units loom as a possibility as 1st quarter starts exceed '49 by 59 per cent

tub and a modern kitchen for \$8,250. To G.I.'s the price is \$350 down and \$59 per month. This builder could readily account for the boom in housing starts. He said, "We offer a house that the average man who makes \$60 a week can afford to buy—and these average men are trying to buy more than we can start." The average age of his customers is 25 years.

The best estimates on the selling price of new single-family houses in Cleveland show 40 per cent under \$10,000, 45 per cent sell for between \$10,000 and \$14,000 and 15 per cent for \$14,000 or over. However, a prediction was made that only 20 per cent will be under \$10,000 in 1950.

Most residential building is contract building by builders who build between 15 and 50 units per year.

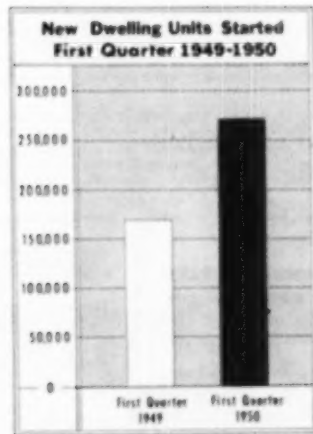
Since there is a scarcity of improved lots, spot building is necessary. Some builders are building along streets that they themselves have improved. It was intimated that unions discourage builders who attempt to build far above the 100 mark.

Dwelling units in apartment structures in 1949 represented 21 per cent of the total starts; the national average was 23 per cent. A notable development is Cleveland's Parkway Gardens. One project contains 747 units and another 525 units in three-story structures. Rents are expected to range from \$60 monthly for two-room suites to \$70 for three rooms. This project, started last fall, accounts for one half the apartment units started and 10 per cent of the total dwelling units started in the area.

Builders in the Cleveland area are optimistic about the future housing market—think that it will hold up for from three to five years. Although population has increased only 13 per cent since 1940, the number of families has increased 21 per cent.

These are the same percentage ratios by which the population and number of families in the United States have increased.

Mortgage money is in plentiful supply according to Cleveland builders. The Housing Act of 1950, liberalizing mortgage terms, will be helpful in sustaining the market in Cleveland as elsewhere. The biggest loan that FHA will insure at 95 per cent of value, repayable over 30 years, has been increased from \$6,000 to \$9,500. Top interest rate on new FHA loans has been cut by $\frac{1}{4}$ per cent to $4\frac{1}{4}$ per cent. The amount that VA will guarantee on its 4 per cent loans to veterans has been lifted from \$4,000 to \$7,500 and the terms raised from a top of 25 years to 30 years. Provision is made for the Federal government to loan directly to veterans for home purchases in some instances.








HERE ARE THE 25 MOST POPULAR

modular size

WOOD WINDOWS THAT SAVE BUILDING TIME AND COSTS!

Less cutting and trimming on the job . . . less waste . . . lower building cost! These are the reasons why it pays to insist on modular-size windows, sash and frames!

The 25 most popular sizes of 5 of the most popular designs shown on this page are manufactured on the 4-inch "module" or unit of measurement. All are available promptly. See your lumber dealer.

OPENING SIZES		GLASS SIZES—1 $\frac{3}{8}$ " CHECK RAIL WINDOWS				
(Note: Windows are made $\frac{1}{8}$ " narrower and $\frac{1}{8}$ " shorter than window opening sizes shown below)		    				
		Two Light	Four Light	Top Three Light	Top Six Light	Twelve Light
		20x3-3	20x 7 $\frac{1}{4}$	6 $\frac{1}{2}$ x16	6 $\frac{1}{2}$ x 8	6 $\frac{1}{2}$ x 8
		20x3-6	20x 8 $\frac{1}{4}$	6 $\frac{1}{2}$ x18	6 $\frac{1}{2}$ x 9	6 $\frac{1}{2}$ x 9
		20x3-10	20x 9 $\frac{1}{4}$	6 $\frac{1}{2}$ x20	6 $\frac{1}{2}$ x10	6 $\frac{1}{2}$ x10
		20x4-6	20x11 $\frac{1}{4}$	6 $\frac{1}{2}$ x24	6 $\frac{1}{2}$ x12	6 $\frac{1}{2}$ x12
		20x5-3	20x13 $\frac{1}{4}$	6 $\frac{1}{2}$ x28	6 $\frac{1}{2}$ x14	6 $\frac{1}{2}$ x14
		24x3-2	24x 7 $\frac{1}{4}$	7 $\frac{1}{2}$ x16	7 $\frac{1}{2}$ x 8	8 x 8
		24x3-6	24x 8 $\frac{1}{4}$	7 $\frac{1}{2}$ x18	7 $\frac{1}{2}$ x 9	8 x 9
		24x3-10	24x 9 $\frac{1}{4}$	7 $\frac{1}{2}$ x20	7 $\frac{1}{2}$ x10	8 x10
		24x4-3	24x10 $\frac{1}{4}$	7 $\frac{1}{2}$ x22	7 $\frac{1}{2}$ x11	8 x11
		24x4-6	24x11 $\frac{1}{4}$	7 $\frac{1}{2}$ x24	7 $\frac{1}{2}$ x12	8 x12
		24x4-10	24x12 $\frac{1}{4}$	7 $\frac{1}{2}$ x26	7 $\frac{1}{2}$ x13	8 x13
		24x5-3	24x13 $\frac{1}{4}$	7 $\frac{1}{2}$ x28	7 $\frac{1}{2}$ x14	8 x14
		28x3-2	28x 7 $\frac{1}{4}$	9 $\frac{1}{2}$ x16	9 $\frac{1}{2}$ x 8	
		28x3-6	28x 8 $\frac{1}{4}$	9 $\frac{1}{2}$ x18	9 $\frac{1}{2}$ x 9	
		28x3-10	28x 9 $\frac{1}{4}$	9 $\frac{1}{2}$ x20	9 $\frac{1}{2}$ x10	9 $\frac{1}{2}$ x10
		28x4-3	28x10 $\frac{1}{4}$	9 $\frac{1}{2}$ x22	9 $\frac{1}{2}$ x11	
		28x4-6	28x11 $\frac{1}{4}$	9 $\frac{1}{2}$ x24	9 $\frac{1}{2}$ x12	9 $\frac{1}{2}$ x12
		28x4-10	28x12 $\frac{1}{4}$	9 $\frac{1}{2}$ x26	9 $\frac{1}{2}$ x13	9 $\frac{1}{2}$ x13
		28x5-3	28x13 $\frac{1}{4}$	9 $\frac{1}{2}$ x28	9 $\frac{1}{2}$ x14	9 $\frac{1}{2}$ x14
		32x3-2	32x 7 $\frac{1}{4}$	Top Four Light Wide	Top Eight Light Four Wide	Sixteen Light
		32x3-6	32x 8 $\frac{1}{4}$	7 $\frac{1}{2}$ x16	7 $\frac{1}{2}$ x 8	7 $\frac{1}{2}$ x 8
		32x3-10	32x 9 $\frac{1}{4}$	7 $\frac{1}{2}$ x18	7 $\frac{1}{2}$ x 9	7 $\frac{1}{2}$ x 9
		32x4-6	32x11 $\frac{1}{4}$	7 $\frac{1}{2}$ x24	7 $\frac{1}{2}$ x10	7 $\frac{1}{2}$ x10
		34x3-10	34x 9 $\frac{1}{4}$	8 $\frac{1}{2}$ x20	8 $\frac{1}{2}$ x10	8 $\frac{1}{2}$ x 8
		34x4-6	34x11 $\frac{1}{4}$	8 $\frac{1}{2}$ x24	8 $\frac{1}{2}$ x12	8 $\frac{1}{2}$ x12

For additional data, see our catalog in Sweet's Builders' File

POPULAR DESIGNS OF MODULAR-SIZE WOOD WINDOWS

Made of ponderosa pine, these modular-size windows have the natural insulating advantages that wood so handsomely provides. They hold paint or other finishes lastingly . . . discour-

age condensation. They are available toxic preservative treated at the factory for extra resistance where staining, decay, insect attack or humidity are factors. Ask your dealer for them.

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This seal of approval identifies woodwork products which meet N.W.M.A. minimum standards of their preservative treatment.



National Woodwork Manufacturers Assn.
332 South Michigan Avenue
Chicago 4, Illinois

Gentlemen: I want to know more about modular design woodwork. Please send me your folder, "New Savings for Builders."

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Address.....

City.....Zone.....State.....

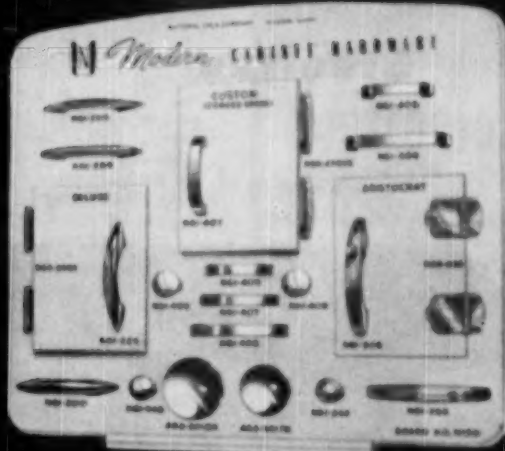
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NATIONAL TUTCH LATCH
 Automatically Opens Cabinet Doors



An Extensive Line of
Builders' Hardware
 That's Quality made,
 In Demand and
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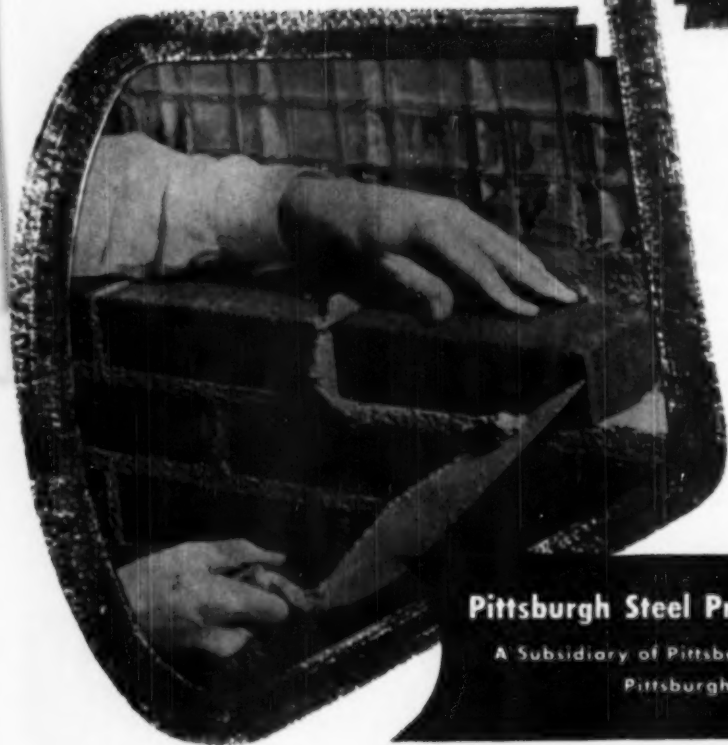


NATIONAL LOCK COMPANY

Rockford, Illinois • Merchant Sales Division
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**You get better
masonry walls
with
Pittsburgh
Steeltex**

When you specify *Pittsburgh Steeltex* for masonry veneer, you get a better wall for two very basic reasons. First, the veneer and frame are more completely bonded together, thus providing greater mutual assistance against later settling and distortion. Second, you'll never have the trouble of wet sheathing. For further good reasons to specify *Steeltex* see our catalog in Sweet's or write for your copy of our catalog D. S. 132, Dept. AB, Pittsburgh Steel Products Company, Grant Bldg., Pittsburgh 30, Pa.



Notice how the strong, welded, galvanized steel mesh bites into the continuous mortar band.

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company
Pittsburgh 30, Pa.

On and Off the Record



News, Views and Comments

CURRENT INDICATIONS —

Nothing in sight now points to declines in building this year. The April 1 report of the National Industrial Conference Board shows favorable comparisons with a year ago in most major industries.

CARLOADINGS —

Totals are up 30.3 per cent. Machinery production is up four per cent, and order inventories are rising. These are usually good indications of business trends.

SPECIAL SECTIONS —

62 newspapers published special sections during National Home Week in 1949. In addition to the District of Columbia these newspapers were in 20 States—Indiana, Illinois, Louisiana, California, Michigan, Mississippi, New Jersey, New York, Ohio, Oregon, Florida, Texas, Wisconsin, Tennessee, Utah, Washington, Maryland, Georgia, Missouri and Wyoming.

PUBLICITY —

Add to the above the hundreds of newspapers which did not publish special sections, but did devote a lot of space to NHW, and the number of column inches of publicity received by home builders aggregates many thousands.

1950 —

Early indications resulting from promotional matter sent to newspaper publishers indicates that many more than 62 papers will carry special sections this year. Many newspapers which in the past two years have failed to appreciate the news and advertising possibilities of NHW, are now eager to produce special sections in 1950. NHW bids well this year to eclipse the 1949 success by even more than 1949 beat the previous year.

CONNECTICUT —

The state has its own housing program at state level for families of "moderate income." Under the program the state makes mortgage loans at 1½ per cent interest. Under another part of the program the state lends money to local housing authorities for construction of rentals for "moderate income" families.

\$95,000,000 —

That is the total authorized by the general assembly for both parts of the program. Of the total, \$30,000,000 will be lent to individual home owners, and the remaining \$65,000,000 to local housing authorities

for construction of "moderate rental housing."

REPAYMENT —

Interest paid by mortgage holders and by local housing authorities is said to be sufficient to cover the interest to be paid by the state on its notes and "almost all other expenses." Most of the families applying for either type of unit have incomes of about \$3,000 a year.

FRANCE —

The government housing program has produced only 90,000 houses since the close of the war, an average of about 22,000 a year. It has been abandoned in favor of a private enterprise program to be encouraged by certain government incentives.

RENT CONTROL —

The incentives appear to be necessary, because rent controls, now in their thirtieth year in France, have stifled home building almost since the close of World War I. A provision for a gradual rise in rent ceilings did produce 20,000 privately financed units last year. New goal is 240,000 new units a year for the next 40 years. The swing is definitely back to private enterprise.

SCARSDALE, N. Y. —

Here the Village Board seeks to ban look-alike houses. It is proposed to establish six characteristics for look-alike houses. A proposed ordinance would restrict houses in any given section to be alike in more than three characteristics.

CHARACTERISTICS —

They include height of main roof ridge above first floor; height of main roof ridge above eaves; length of main roof ridge; distance between outside walls measured at eaves; relative location of windows; relative location of attached garages and porch and remainder of building. Dimensions in first four provisions must not vary less than two feet.

PROPOSAL —

Not more than 10 look-alike houses, including the one for which permit is being sought would be permitted in a given area.

COOPERATIVES —

FHA Administrator Richards recently announced that his agency will insure a loan for a cooperative housing project in Denver, and another in Oklahoma. This is in spite of the fact that Congress refused to provide special funds for such projects.

No Special Tools

Or New Equipment to Buy



Contractors

Make quick profits
restoring worn floors with



At Savings Up to 50%

Ideal for warehouse floors, loading docks, walks, platforms—easily installed ½-inch thick over wood, concrete, brick or composition floor—outwear either.

No heating. Normal curing time, 36 hours. Avoids removal of machines, storage bins, etc. If color is desired, can be painted after 7 days.

Customers often ask name of Contractor who will install Tufcrete products. If interested in quick turnover at good profits, mail coupon for complete information and prices.

TUFCRETE Company, Inc.

553 Tenthred Bldg., Des Moines 9, Iowa.

ATTACH TO YOUR LETTER HEAD AND MAIL

Tufcrete Company, Inc., Des Moines 9, Iowa
Please send complete information about your Resurfacer proposition to Contractors.

Firm

Business

Address

City Zone State

.....

*How to Get
Extra-fine Design
and Durability in Modern
Entrance Doors*

Douglas Fir doors

FOR a really fine entrance door, the Douglas Fir Tru-Fit door stands alone in quality.

By "quality" we mean durability, fine manufacture, and beauty.

Durability of Tru-Fit entrance doors is assured by the characteristics of the species. Fir is preeminent in durability and strength. Especially when doors are made from its heartwood, as are Tru-Fit doors.

Beauty of Tru-Fit doors comes from the striking designs prepared by architects for the industry and trade.

Fine manufacture of Tru-Fit doors is certain when the manufacturer has his doors regularly inspected by the Fir Door Institute.

These are steps taken by the Douglas Fir Door Industry to see you get extra-fine design and durability in your Modern Entrance Doors.



Design No. 3030, shown here, is one of the most popular Tru-Fit entrance doors used by modern home builders.



**LOOK FOR THE FDI
GRADE MARK ON EVERY
TRU-FIT ENTRANCE DOOR!**

All Tru-Fit entrance doors are made from selected 100% heartwood, and are officially inspected and stamped FDI-A.

Ask to see FDI Catalog No. 3000. Large color pictures show the details which make Tru-Fit doors leaders in extra-fine design, and durability.

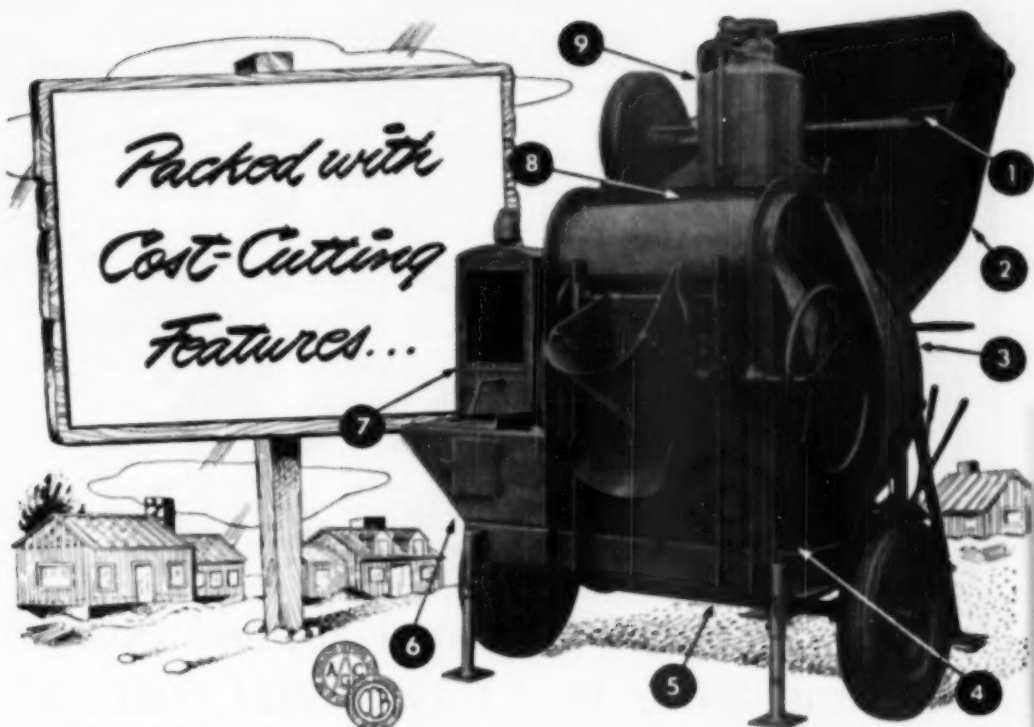


Remember—6 out of every 10 doors in today's American homes are Douglas Fir Doors.

Fir Door Institute

Tacoma 2, Washington





BLUE BRUTE design shows you what to look for in a portable mixer

Give a Worthington-Ransome Blue Brute 11-S or 16-S Portable Mixer a thorough going over — and get a real revelation of how far mixer design has advanced! For example: ❶ *skip cable winding shaft*, mounted on self-aligning bearings, has grooved spools for longer cable life; ❷ *power loader* with automatic knock-out and brake set when skip raises to charging position; ❸ *skip vibrator*, simple and effective, assures quick transfer of materials from skip to drum; ❹ *drum rollers* of genuine car wheel metal with chilled treads — each roller mounted on two Timken bearings; ❺ *roller sub-frame* under drum prevents concrete accumulation on roller shaft or bearings; ❻ *countershaft* of heat-treated alloy steel in self-aligning

ball bearings — all units easily accessible; ❼ *engine* mounted with radiator facing mixer's discharge side avoids dust, clogging and overheating; ❽ *drum drive gear* of one-piece semi-steel casting, machined to true circle; ❾ *wafer tanks* of accurate, exclusive spiral cut-off type — no rubber to deteriorate.

These and many other features — including Ransome's perfected mixing action, famous for producing better quality concrete — are the reasons why construction men everywhere depend on Blue Brute Portable Mixers for more concrete at less cost. See your nearby Worthington-Ransome distributor for performance facts that prove *there's more worth in a Blue Brute.*

00-0



A Blue Brute 16-S Portable Mixer speeds operations on a big housing project in Springfield Gardens, Long Island, N. Y. This machine is one of a fleet of both 16-S and 11-S Blue Brutes owned by Angelo Aragona, who says: "I am well pleased with their performance and economy."

Worthington Pump and Machinery Corporation, Worthington Construction Equipment Dept., Harrison, N. J.
Distributors in all principal cities

WORTHINGTON



BUY BLUE BRUTES



IF IT'S A CONSTRUCTION JOB, IT'S A BLUE BRUTE JOB



When you figure the total applied cost of sheathing, your best buy is **BILDRITE***

You only see *part* of the picture when you look at the cost of materials alone. To get the *real* story about sheathing costs, you have to figure the *total applied costs*. Remember: It's the applied cost that determines the cost of the house—and price to the customer.

So let's see what happens: It takes about half the time to apply BILDRITE compared with wood. That's a big saving. There's no waste with BILDRITE as against 12% waste with wood. That's a saving—and there are plenty of others. See for yourself—fill in the forms at the right.

AND in addition you get the *plus* value of 2½ times the insulating value and twice the bracing strength of wood sheathing horizontally applied! You can't get around the facts. The best buy in sheathing today is INSULITE (BILDRITE) Sheathing!

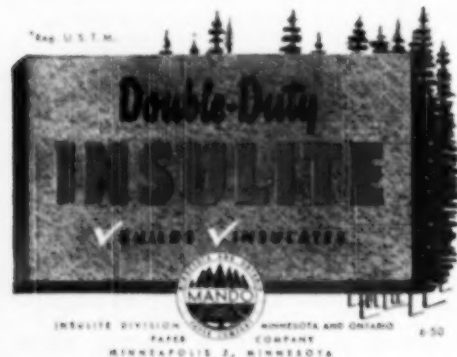
Figure it Yourself

WOOD SHEATHING 1000 SQ. FT. WALL AREA

ITEM AND QUANTITY	RATE	TOTAL
1,000 sq. ft. 8" wood sheathing (horizontal)		
Waste, 12% (120 sq. ft.)		
Carpenter labor, 15 hours		
Insurance, 10% of carpenter costs		
2.8 rolls building paper		
Carpenter helper to apply paper		
Insurance, 10% of helper costs		
TOTAL APPLIED COST, WOOD SHEATHING		

BILDRITE SHEATHING 1000 SQ. FT. WALL AREA

ITEM AND QUANTITY	RATE	TOTAL
1,000 sq. ft. Bldrite Sheathing		
Waste (Practically none, less than 1%)		0
Carpenter labor, 8 hours		
Insurance, 10% of carpenter costs		
Building paper (None needed)		0
Helper to apply paper (None)		0
Insurance on helper (None)		0
TOTAL APPLIED COST, BILDRITE SHEATHING		



See Sweet's File, for Builders—29/5

EDITORS' Round Table

"NO ONE disputes that there was ample justification for the labor crusade, nor does anyone doubt that it was only by attaining political power that labor was able to bring about many reforms which were urgently called for. After a slow progress toward the desired ends labor was born as a political party, and it was from that date that its decline also began."

THE FOREGOING is from *The Watchman*, Australian pamphlet, which attempts to explain the recent defeats of the labor parties in both New Zealand and Australia.

THE ULTIMATE DOWNFALL of any government, continues *The Watchman*, commences at the very point where its political success begins. As one after another great labor reform was achieved, the need for the continuance of the labor party diminished. Today the great social abuses which brought it into existence no longer exist, and it may be truthfully said that the labor party has become less and less an organization fired by moral zeal to destroy social evils of a glaring character, and more and more a purely political machine designed to realize the personal ambitions for power of its leaders.

RECENTLY, the editors of *American Builder* have received a few letters from local labor leaders in two sections of the country, condemning this magazine's editorial policy as being anti-labor. The resentment expressed in the letters is not founded on fact.

THERE IS A DIFFERENCE between being anti-labor and being against a type of labor leader who has less interest in labor than he has in using labor as a political stepping stone to power. It is that type of labor leader that *American Builder* opposes. It is well known, too, that most thinking members of labor also oppose them, although generally in silence.

NO ONE who understands the American system of production and distribution can be anti-labor. It is only when labor prospers that the entire economy is healthy.

AMERICAN BUILDER, as a unit in this economy, knows that, and far from being anti-labor, is decidedly pro-labor. It does not want the gains

(Continued on page 49)

"HOME BUYERS not content with less"

Ask this builder, who is currently building eight houses at University Park in the Washington, D.C., area. He considers Electric Water Heaters and other electric equipment a "must." National sales and survey figures show a constantly increasing demand for Electric Water Heaters along with other electric equipment. Progressive builders everywhere are taking advantage of this trend.



These two-story homes have 3 and 4 bedrooms, with 1½ or 2 bathrooms, and one bedroom on the first floor. They sell in the \$18,000 to \$30,000 price range, and Mr. Lippert is never at a loss to find a buyer.



Each kitchen has an electric sink and dishwasher among its numerous electrical household appliances, and an Electric Water Heater assures ample, automatic hot water supply. Kitchens are large enough to accommodate an eating area if desired.

...OF COURSE,
IT'S ELECTRIC!

Electric Water Heaters are completely automatic, clean, dependable in operation. They save money for builder and customer alike. Installation can be made anywhere—no flue or vent. This shortens hot water lines, cuts piping cost, prevents water waste. Fully-insulated storage tank for extra economy of operation. Safety assured by all electric, dependable temperature control.

ELECTRIC WATER HEATER SECTION

National Electrical Manufacturers Association • 155 East 44th Street, New York 17, N. Y.

ALLCRAFT • BAUER • BRADFORD • CRANE LINE ELECTRIC • FAIRBANKS-MORSE • FOWLER • FRIGIDAIRE
GENERAL ELECTRIC • HOTPOINT • HOTSTREAM • JOHN WOOD • KELVINATOR • LAWSON • MORTLAND
MONARCH • MORGE • PEMCO • REX • SHEN • SEPCO • A. O. SMITH • THERMORAY • TOASTMASTER
UNIVERSAL • WELIX • WESTINGHOUSE

**IT'S EASY TO
INSTALL an
ELECTRIC WATER
HEATER**
in a house wired for an Electric Range!

NEW JERSEY GETS LAST WORD WITH RICHMOND

Builder: Serner & Selzer, Fort Lee, N. J. Architect: Max M. Simon, New York. Distributor: Davis & Wardlaw, Inc., New York. Plumbing Contractors: Paramount Plumbing & Heating Co., New York.

1170 ULTRA-MODERN APARTMENTS WITH THE LAST WORD IN PLUMBING FIXTURES—RICHMOND

Richmond units (shown below) proved an ideal choice for this smart Linwood Park community of modern elevator apartments, perched on top of the Palisades at Fort Lee, New Jersey.

Whatever the job—modernization, single units or large development—your choice from Richmond's complete line of vitreous china or enameled

cast-iron units is sure to prove more than satisfactory to your clients. For Richmond's famous fixtures, available in pastel colors or white, are sturdy, streamlined, and guaranteed for dependable, lasting performance. That explains why, with experienced builders nationwide, the first word is Richmond for the last word in modern plumbing.



The Richmond Clearest 2-piece vitreous china close-coupled closet combination, plate 4-210



The Richmond Phoenix rephatation 2-piece close-coupled closet combination, plate 4-217

The Richmond Londa lavatory with center-set fitting, plate 609



The Richmond Seaford Bat-tin sink with center outlet, plate 2021

The Richmond Breslin recess bath, plate 225, left-hand outlet, plate 227



The Richmond Trazler sink and right-hand tray combination, plate 2440, plate 2441 left-hand tray



RICHMOND

RICHMOND RADIATOR CO. — AFFILIATE OF REYNOLDS METALS CO.



Richmond Radiator Company
19 East 47th St.
New York 17, N. Y.

A8-6

Please send me the latest literature and information on the Richmond line of fine plumbing fixtures. No obligation, of course.

Name _____
Company _____
Address _____

EDITORS' Round Table

(Continued from page 47)

and the stature of labor to suffer as it has in other countries. It hopes and believes that labor can dethrone some of its selfish leaders before those leaders stop the progress of the very people they are supposed to be helping.

IT IS INEVITABLE in human nature that when certain types of people are given the power to lead a crusade, and then find the objective accomplished, they are loathe to retire. For them a taste of power is an opiate, and there is an unquenchable thirst for more of the same, regardless of what has to be done to get it.

LABOR LEADERS are no different in that respect than industrial leaders or political party leaders, or even leaders in small volunteer community activities. In these cases, however, only a small segment of an industry or a minor local community activity gets hurt when it comes under the dominance of a power-drunk leader.

WITH LABOR, however, the danger is to all of labor first, then, inevitably to the entire economy.

WHAT THE EDITORS of *American Builder* seek to avoid is the experience labor has had in New Zealand and Australia. They have no quarrel with any bracket of labor, and few if any quarrels with the leaders of building labor. What they do seek is to warn labor of its danger in the hands of political opportunists.

THE WATCHMAN, speaking about Australia, goes on to say that of course the insistence upon the survival of old social grievances still exists, but is more and more merely propaganda based upon the unchristian doctrine of class warfare. This is continually fanned into flame to create the political atmosphere necessary for the survival of demagogic aspirants.

SOCIALISM, continues The Watchman, far from being a reforming and uplifting crusade, has led, by its teachings and methods which make a purely materialistic appeal to the masses, to a moral and spiritual lowering of tone throughout the community, quite contrary to its pretended object. In other words, it has lost its soul, and the Australian people, through com-

(Continued on page 51)

nd tree-
ork sched-
property ad-
estimated. The soil an-
seek fill will be cleaned up
shrubbery will be protected. We plan
Bermico Sewer Pipe for house-to-sewer
connections.
undertake to complete all work covered
your contract to your entire satisfaction.
Southland & Co.

OK
John C.



8-FT.
LENGTHS

NOT "PIPE DREAMS" ... BUT FACTS!

Facts that Prove Bermico Can Slash Your Building Costs

Use Bermico and save money, time, trouble all along the line. For several reasons . . . all good: Bermico's convenient 8-foot length is so much lighter . . . weighs only a third as much as other types . . . it handles easier on truck or job. Simple as ABC to lay, too. No joining compound necessary. A few hammer blows — joints are tight! And stay tight even when the ground settles!

What's more, Bermico is rootproof and watertight . . . unaffected by atmospheric extremes. And the smooth uniform bore delivers a high capacity water flow.

Each length of Bermico must measure up to a strict and unvarying engineering standard. That explains why millions of feet of Bermico are now serving in house-to-sewer connections, septic tank disposal and drainage systems.

For the full story of how Bermico Sewer Pipe can cut costs, boost profits, streamline your effort, write to: Dept. A-18, Brown Company, 500 Fifth Ave., N. Y.

WEIGHS
 $\frac{1}{3}$ LESS

ROOT-PROOF
JOINTS

BERMICO®

SEWER PIPE

A PRODUCT OF BROWN COMPANY





**YOU CAN BUILD BETTER -
FASTER AT LESS COST WITH**

BRAINARD STEEL BUILDING PRODUCTS

STEEL-STRONG BUILDING POSTS

Fixed or adjustable — structurally acceptable by F.H.A. — thoroughly tested at Pittsburgh Testing Laboratory — chemically cleaned and painted *both inside and out* — made of heavy, high-strength steel controlled from ore to product by Brainard — lowest cost post of its kind on the market today — single posts or carload lots — check with your dealer or use the handy coupon below.

TEL-O-POST

Best known and best operating adjustable post available anywhere — many special features now included at same low cost — chemically cleaned and painted *inside and out* to resist rust and corrosion — internally greased to prevent "freezing" — stronger handle, upset screw, notched pin assure full benefits of post without danger of failure. Patents held under No. 2,504,291.

SHARONSTEEL

BRITE-LITE AREAWALLS



Round or straight type in a wide variety of sizes — no areawall on the market can match Brite-Lite at any price — heavy copper-bearing, galvanized, corrugated, prime steel — for new homes or old just attach to foundation and back fill immediately — easy one-man installation. Compare and you'll buy Brite-Lite! Write for prices or literature.

Building Products Division
BRAINARD STEEL COMPANY

2216 Larchmont Avenue Warren, Ohio

Please send me more data on — Steel Strong — Tel-O-Post — Brite-Lite

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Address _____

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State _____

BRAINARD STEEL COMPANY

EDITORS' Round Table

(Continued from page 49)

mon sense and dogged moral purpose have found the labor politicians out and rejected them.

IT IS NOT claimed that the defeat of the labor party has or will eliminate all distress and inequity in Australia. It is claimed, however, that distress, poverty and hardship can be best dealt with by private benevolence rather than sweeping socialistic government measures which often create more hardship than they cure.

IF THAT IS NOT the total answer to the defeat of the labor party in Australia, it is a large part of the answer, since the labor party could not have been defeated without the votes of labor.

THUS, LABOR in Australia, when it went to the poles last year and voted the labor party out of office, must be presumed to have been speaking to American labor and warning it of the consequences of socialism and classism.

THERE IS NO good reason why American labor, the most intelligent and best informed on earth, should have to succumb to ultimate defeat or at best receive serious setbacks, because it allows itself to become government.

THAT IS PARTICULARLY true with the examples already set in Australia and New Zealand, and evidently to be duplicated in the not too distant future in Britain.

CLASS GOVERNMENT is not good in any country, whether that government be big capital, big labor, big farm or any other class. It holds power because it has to favor an organized minority, and in doing that, it creates imbalance, and thus brings hardship to all, including the very people it purports to favor.

AMERICAN BUILDER has said before, and says again that it opposes domination of government by any class for any stated motive, because the mere fact of domination for class preferment defeats the objective, regardless of how noble it might be.

AND PERHAPS it should be said again for the sake of emphasis that the editors of this magazine firmly believe that intelligently operated labor unions are indispensable to the national economy.

JUNE 1950

NOW... Sand Floors with
**MORE SPEED...
MORE PROFIT!**

Double your production with

**AMERICAN
SUPER 8**



On job after job—contractors report this new American Super 8 cuts twice as fast as a standard 8" machine! This greatly reduces time and costs...and increases the contractor's profit!

The Super 8 is powered by a specially designed 2 H.P. motor... drum driven by vari-speed transmission... drum speed range from 1600 to 2800 r.p.m. assures greatest efficiency under varying conditions... drum speeds easily selected by "dialing" Drum Pulley... great range of drum pressures selected by variable control—52 lb. to 105 lb.—to meet all conditions in floors. Operates efficiently even with low voltage! Has double volume dust pick-up... low center of gravity... plus many more all-new Super Features! Send coupon for details.

SINCE 1903

**AMERICAN
FLOOR MACHINES**

Powerful 2 H.P. motor starts under a "no load" condition due to automatic take-up of motor pulley.



American Sustaining Device provides variable control of drum pressure to meet all conditions in floors.



Single adjustment quickly changes drum speed... range 1600 to 2800 r.p.m.

The American Floor Surfacing Machine Co.

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Please send free description and prices on the new American Super 8 Floor Sander. No obligation.

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Build with Confidence

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THE GREATEST NAME IN BUILDING

Whether you're building a wall, ceiling, or partition—whether you're considering insulation, sound control, roofing, paint, or steel—you'll find almost any need answered by the vast array of United States Gypsum products.

All are developed and tested with scientific care in one of the country's finest research laboratories. Throughout every stage of manufacture, they are quality controlled by an extremely rigid inspection system.

When you buy U.S.G. you're building for the future—because you're building with the finest materials made.

For complete information, contact your U.S.G. representative, or write United States Gypsum, 300 West Adams Street, Chicago 6, Illinois.

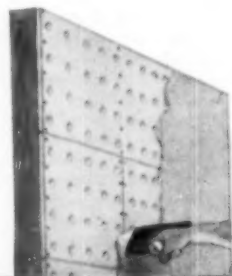
If Your Requirement is PARTITIONS . . .

Investigate the scope of U.S.G. plastering systems. In addition to the materials for partitions pictured here, U.S.G. produces many specialized systems for specific job requirements.



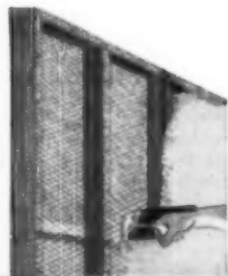
Plain Rocklath®
and Red Top® Plaster

Together, they form one of the most widely used partitions. For exterior walls and top floor ceilings, 3-in-1 Insulating Rocklath, with aluminum foil backing, not only builds but provides low-cost effective insulation and vapor barrier.



Perforated Rocklath
and Red Top Plaster

Red Top Plaster "mushrooms" through Perforated Rocklath plaster base producing a rivet-like bond. Here's a plastering system preferred by thousands of builders for its outstanding economy and strength; its added fire-resistance.



U.S.G. Metal Lath
and Red Top Plaster

A combination that forms an accepted standard throughout the industry for high-strength, enduring, fire-resistant partitions. The recognized flexibility of metal lath makes it adaptable to any architectural design. *T.M. Reg. U.S. Pat. Off.

AMERICAN BUILDER

POSITIVE-PROOF...

That It Pays To Erect CHAMPION HOMES!



The new **1950** Low-Cost **CHAMPION Homes**

30

DESIGNS AVAILABLE



QUALITY THAT WINS DEMAND . . . CHAMPION Homes withstand all climatic conditions because of rugged construction and quality-tested materials! They are available in 3 sizes and 30 attractive designs, which supply architectural variation in large group developments! The enthusiastic demand of Homebuyers across the nation means CHAMPION Homes bring **SALES TO YOU!**

QUICK, EASY ERECTION . . . Expertly engineered, CHAMPION Homes can be erected and under roof in one day! Interim financing is available to responsible Gunnison Dealers! Orders are shipped by truck up to 350 miles or by freight (2 in a car) to any point in the United States. This simplified and speedy building method means CHAMPION Homes earn more **PROFIT FOR YOU!**

CHAMPION Homes are designed to take advantage of the Economy Home Program and answer the needs of families earning \$50 a week or more. The recent letter on the left from one of the nation's leading Home Financing Associations is a positive-proof of Homebuyer, Mortgage Banker and Builder satisfaction! The franchise in your area may be available. Write Dept. A-1 for information.

PROFITABLE FEATURES:

- two & three bedroom sizes
- Mellow-tone washable walls
- abundant closets & wall plugs
- gas or oil furnace
- complete insulation
- modern bath & kitchen fixtures

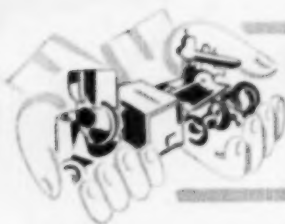
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Wherever There's Better Living . . .

Gunnison Homes

UNITED STATES STEEL CORPORATION SUBSIDIARY

NEW ALBANY, INDIANA



NEW PRODUCTS

Offered by Manufacturers

AUTOMATIC WINDOW LOCK AB65019

"Shurlok" window lock automatically locks window as it is closed. Lock will work in three different positions of the sash. Made of zinc



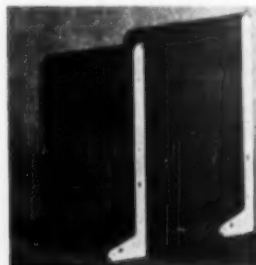
alloy, rustproof and finished in antique brass color. Actual lock size is 1 1/2 inches high, 5/8 inches deep. Easily installed. Sterling-Freeland Industries, Inc., Dept. AB, 4701 North Western Ave., Chicago, Ill.

NEW WINDOW DESIGN AB65011

Panel Windows are a one-piece wood window, stationary in the frame and hermetically sealed. Ventilation is obtained through series of sliding glass panels which open one half of the glass area. All operating panels have metal surround of nickel silver flexible strip permanently attached to glass. Sliding panels which move upward in grooves provided in wood sash and open to any desired position are held in place automatically by metal surround. Cleaned from inside in 70 sizes. Panel Windows, Inc., Dept. AB, 207 Winchester Ave., Martinsburg, W. Va.

COLORED CABINET TOPS AB65024

Improved, more attractive labor-saving top has been added to American Kitchens line. All base cabinet units are covered with long wear-



ing, rugged vinyl in fresh colors. New colored tops will be available in Baltic blue and white, Tampa tan with white, Redwing red with maroon, Greenwich green with white, and basic black. American Central Div., Dept. AB, Avco Manufacturing Corp., Connersville, Ind.

STEEL BRIDGING AB65009

Each member of Pioneer steel bridging ties together three joists, thus enabling an entire floor to be built as an interlocked unit. Two



nails are required for each member, and these hold bridging member in place while new improved gripping teeth are driven into place. Bridging is rust-proofed, precisely machined for use on 8, 10 or 12-inch joists when spaced on 16-inch centers. Approved by FHA when applied as directed. The Pioneer Co., 1050 Century Bldg., Pittsburgh 22, Pa.

OIL-FIRED HEATING EQUIPMENT AB65020

Three new units for medium and large homes are of same general design and differ only in size and B.T.U. output. Capacities are 110,000, 150,000 and 205,000 B.T.U.'s. Each boiler



is made up of a base, firepot section, intermediate section and dome section. Made of cast iron, boilers are vertical sectional type with fire cast integral with sections. Completely equipped with Wall-Flame burner, a factory-built refractory hearth that attaches to boiler base, and all necessary controls. Timken Silent Automatic Div., Dept. AB, Box 56, Roosevelt Station, Detroit 32, Mich.

CORK FLOORING AB65026

Popular priced cork flooring, "Kencork," provides resilience underfoot, and is an excellent insulator. Half the substance of cork is air, providing an insulating quality that makes this flooring also appropriate for wall covering. Available in standard sizes of 8x8, 12x12, and 8x12 inches. Made with beveled or square edges, and waxed or natural finish. Thickness, 3/16-inch. Firm will also continue to manufacture cork tile flooring in thicknesses of 5/16 and 1/4-inch. David E. Kennedy, Inc., 58 Second Ave., Dept. AB, Brooklyn 15, N.Y.

UTILITY DITCHER AB65023

"Dick-Wick," a portable, lightweight ditching machine, can be moved to or from locations on a small trailer or pick-up. Hand-fed



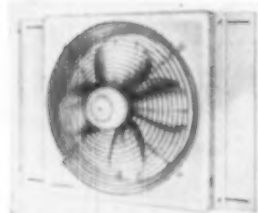
ratchet type digger enables operator to dig as fast or slow as desired under different soil conditions. Cuts digging time considerable because it does quickly and efficiently the work of five men digging under normal conditions. By taking multiple cuts, trenches of any width can be made. Can be used as close as eight inches to fences and foundations. Weight, about 550 pounds; length, 72 inches; height, 62 inches. Charles Machine Works, Dept. AB, Perry, Okla.

GUIDE FOR LAYING BLOCKS AB65025

Blockguide, for cinder and concrete block construction, enables inexperienced worker to expertly lay blocks with ease and facility of skilled mason. Successive blocks may be laid with undeviating exactness while progressing from left to right or vice versa. Correct block alignment is assured from the start by use of this tool because the exact position of every block is outlined in relation to all adjacent placements. Made of steel, it is light enough to use with one hand. Automatic Machine Products Co., Dept. AB, Blockguide Div., 83 Court St., Middletown, Conn.

REVERSIBLE WINDOW FAN AB65004

Two-speed electrically reversible window fan pulls cool night air directly into the room in which it is mounted, or can be reversed to

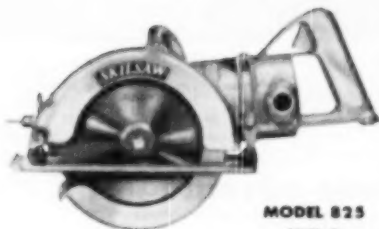


draw air through the house from windows in other rooms. High and low speeds. Easily mounted in any standard window by means of expandable side panels, fastened into window frame by four screws. Cabinet and side panels finished in light ivory enamel. Silver grille provides personal safety. Certified air delivery rating of 2500 C.F.M. Hunter Fan and Ventilating Co., Dept. AB, 400 S. Front St., Memphis, Tenn.

(Continued on page 58)



Gang-cutting pays off fast with powerful, easy-handling SKIL Saw!



**MODEL 825
SKIL Saw**

A favorite with contractors for general home construction. Cuts up to 2 1/4 in. deep. Bevel cuts up to 2 1/4 in. deep at 45°. Light, compact, powerful.

Gang-cutting with SKIL Saw gets buildings up fast. A look at these SKIL Saw features shows you why it's perfect for day-long production sawing on the job site—

NORMAL, COMFORTABLE SAWING POSITION—With SKIL Saw's rear handle you saw without difficult reaching, straining or stretching. Less effort per cut . . . more cuts per day.

EASY, ACCURATE DEPTH ADJUSTMENT—With SKIL Saw's quick, simple depth adjustment you're ready in seconds to mark the second layer as you cut the top one.

SMOOTH, EASY SAWING ON EVERY CUT—Hi-torque SKIL Saw avoids jamming and stalling. Keeps production at a peak all day long.

Ask your SKIL Tool Distributor to demonstrate SKIL Saw today. You'll be glad you did!

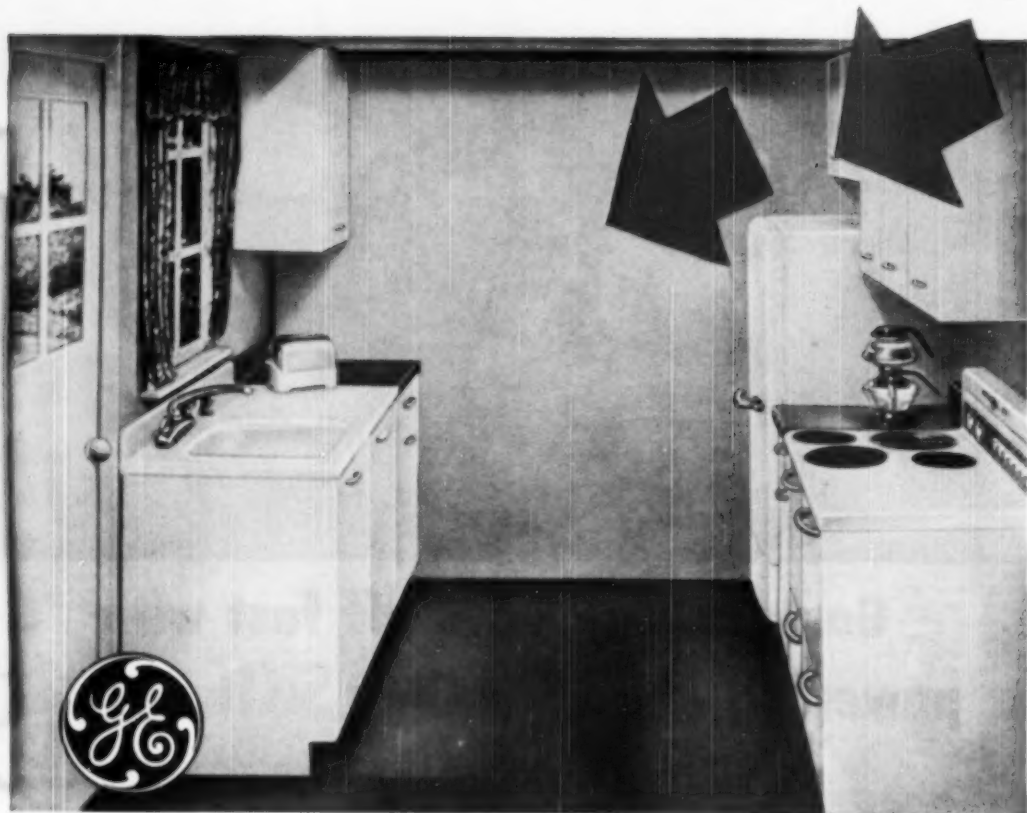
SKIL Products are made only by
SKILSAW, INC.

8033 Elston Avenue, Chicago 30, Illinois
Factory Branches in Principal Cities

In Canada: SKILTOOLS, LTD., 66 Portland St., Toronto, Ont.

SKIL

Why don't you duplicate



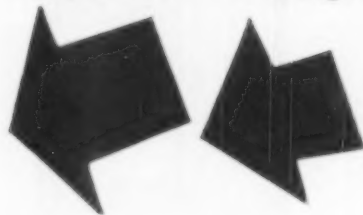
This is the General Electric Kitchen that helped sell so many Talbott homes so fast. Here dishes are washed and double-rinsed automatically . . . there's a 52-gal water heater . . .

plenty of cabinets . . . a Disposall® for food waste . . . and a handsome electric range. Imagine all this "luxury" living in a \$8990 house! No wonder 44 houses were sold the first day!

General Electric offers you all these advantages:

- Tested merchandising programs that have helped so many other builders enjoy phenomenal sales results.
- The brand of electrical appliances that people prefer to all others.
- Assistance in designing and improving kitchen layouts for your houses.
- One source of supply for matched equipment . . . a full line of cabinets and appliances.
- And most important: G-E equipment is world-famous for its dependability! Why not pre-sell your houses the General Electric way?

this sales miracle?



The Talbott Building Company took a hint from another successful builder...produced a sample home with complete General Electric Kitchen... and sold 44 new houses the first day!!

Let Mr. Ralph R. Talbott of the Talbott Building Company of Baltimore, Md., tell you of his experience in his own words:

"A representative of General Electric very graciously invited us to take a trip over to Washington to have luncheon and to look over the prospering G-E development of Brisker & Co., outlining how successful that unit had been in selling G-E Kitchens and their houses.

"We took the hint and immediately produced a sample home here—with complete General Electric Kitchen, and had Hecht & Co. furnish it for us. We advertised it for the first time in a Sunday newspaper.

"The results were overwhelming!"

"At the close of business today we had sold 44 new houses to be built at Lochearn, and we have every reason to believe that we can duplicate this number within the next week.

(A week later, a total of 71 houses had been sold!)

"We're glad we installed these splendid General Electric products in our houses. Without them, we do not believe this sales miracle would have been possible!"

Other builders had similar experiences!

Would you be interested in duplicating Mr. Talbott's sales miracle? We sincerely believe you can!

After all, many other builders throughout the country have had similar experiences.

One builder in Massachusetts sold 125 houses in 10 days! A Denver, Colorado, builder sold 54 G-E equipped houses the first week end! A Long Island, N.Y., builder sold 67 General Electric equipped houses the first Sunday!

Take this hint— as Mr. Talbott did!

Pre-sell your houses by including General Electric Kitchens. Everybody wants all-electric living—and that naturally includes prospects for low-priced houses. Furthermore, of all the electric appliances available, people prefer General Electric! G-E is your best bet.

We shall be glad to offer you the same tested merchandising programs that have helped so many other builders. We'll even assist in designing and improving kitchens layouts for your houses if you wish!

Get complete facts about the G-E "Kitchen Package" through your local General Electric distributor, or write to the Home Bureau, General Electric Company, Bridgeport 2, Conn.



This Talbott House offered people what they'd been looking for—all electric living for only \$8990.

You'll be glad to know, too, that the General Electric Kitchen costs the buyer as little as \$4.80 a month extra when it is included in the long-term mortgage.

Remember: 44 Talbott houses were sold the first day! Why not let General Electric help sell your houses faster, too?

You can put your confidence in—

GENERAL  ELECTRIC

NEW PRODUCTS

(Continued from page 54)

BATHROOM HOSPITALITY UNIT

AB65006

Built-in, recessed service rack holds several magazines, a cigarette tray, cigarettes, matches and toilet tissue. Cabinet is 12 by 17 by



4 1/2 inches, available in chrome or hammer-tone frame, and attaches to rough opening with four screws. House of Hospitality, Dept. AB, 11544 Ventura Blvd., North Hollywood, Calif.

VINYL PLASTIC FLOOR COVERING

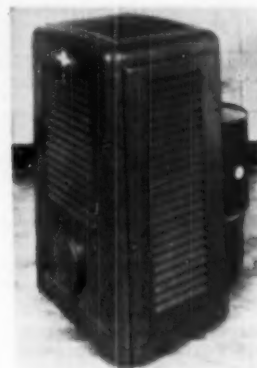
AB65023

Sandran, a new vinyl plastic floor covering, consists of vinyl-rubber latex impregnated cellulose sheet which is first photo-engraved, covered with a vinyl surface, and laminated to top quality asphalt saturated fibre backing. Vinyl surface resists scratches, staining and marking, and requires little maintenance. Can be laid loose with no fear of curling and buckling, and if desired may be cemented down. Available in 3, 6 and 9-foot widths. Will cover the average room with no seams present. B. F. Goodrich Chemical Co., Dept. AB, 224 Rose Bldg., Cleveland 15, Ohio.

OIL-BURNING HOME HEATER

AB65028

Model 2131 oil-burning home heater, 33 1/2 inches high and 19 inches wide, has a rated output of 30,000 B.T.U.'s per hour and is capable of heating from 2,500 to 5,000 cubic



feet of space. Fuel is fed to burner from fixed reservoir at back of heater. Burner is made of heavy gauge steel, has no moving parts. Built-in, bayonet-lock lighter opening plug, built in the burner, fits snugly to prevent air leakage. Automatic draft regulator. Thermostatic control. Perfection Stove Co., Dept. AB, 7609 Platt Ave., Cleveland 4, Ohio.

MODULATION THERMOSTAT

AB65035

Time Modulation Comfort thermostat may be used with all types of domestic heating systems using any kind of fuel. Follows changes

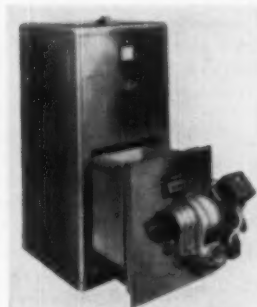


in outside weather through new means of applying artificial heat to temperature-sensing element. Adjusts itself automatically in accordance with weather changes and heating demand. Minneapolis-Honeywell Regulator Co., Dept. AB, 2753 Fourth Ave., South, Minneapolis 8, Minn.

HOT-WATER HEATING BOILER

AB65008

Design of a new steel, residential model hot-water heating boiler is a combination of water tube, fire tube and refractory-lined fire-

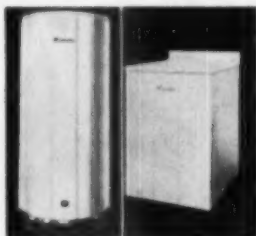


box. Efficiency results from long fire travel and heating surface. Fired by Will-Burt electronically-controlled pressure-damping oil burner. Normal 6-inch thickness of Fiberglas insulation is compressed into 3-inch space between inner gas-tight, Arma-coat aluminum steel casing and outer jacket. Height, 55 1/2 inches. Requires about a 25-inch square of floor space. Ratings, 640 square feet of hot water radiation using one-gallon burner nozzle and 88-square feet using 1.25 gallon nozzle. The Will-Burt Co., Dept. AB, Orville, Ohio.

AUTOMATIC WATER HEATERS

AB65007

Fully automatic electric water heaters are attractively designed in vertical or table-top models for installation in kitchen, pantry or rumor room in basement. Have white baked-enamel finished jackets. Silent, safe operation, with high heating and recovery rates, under thermostatic control and full safety protection. Adjustable to deliver hot water at tempera-



ture of 120 to 170 degrees F. Approved by Underwriters Laboratories, Inc. Table-top models available in 30, 40 and 50 gallon sizes, and vertical models in 20, 30, 40, 50, 66, 80 and 120-gallon sizes. L. O. Kaven & Brother, Inc., Dept. AB, 154 Opden Ave., Jersey City 7, N.J.

HORIZONTAL SLIDING WINDOWS

AB65013

Sliding panel in aluminum window is supported on two rollers. Wear-resistant weather strip is used to eliminate metal to metal contact. Slid-



ing panels lift out and all washing is done from inside the room. Screens cover ventilating portion of window and storm sash panels are installed in aluminum extruded section from inside the room. Wide variety of styles and sizes. Normal assembly time is 15 minutes per window and a screw driver is only tool needed. Peterson Window Corp., Dept. AB, 20500 Mound Rd., Detroit, Mich.

(New Products Continued on Page 158)

CHECK NUMBERS AND MAIL COUPON FOR INFORMATION

American Builder, 79 W. Monroe Street, Chicago 3, Illinois

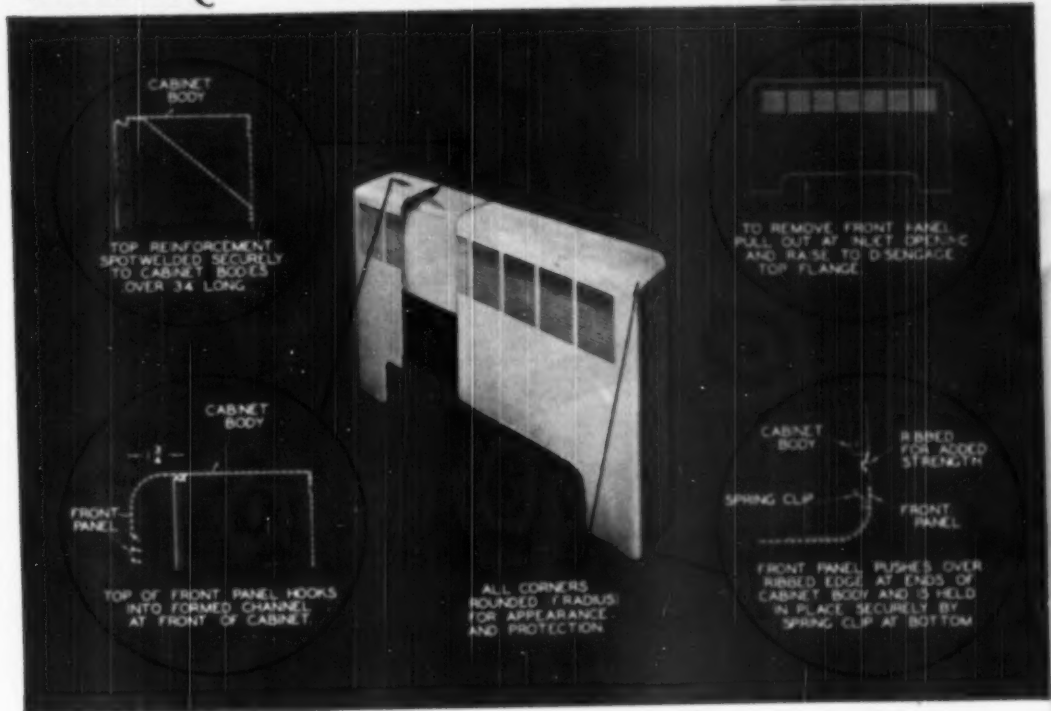
NAME ADDRESS

CITY STATE

AB65001	AB65010	AB65019	AB65028
AB65002	AB65011	AB65020	AB65029
AB65003	AB65012	AB65021	AB65030
AB65004	AB65013	AB65022	AB65031
AB65005	AB65014	AB65023	AB65032
AB65006	AB65015	AB65024	AB65033
AB65007	AB65016	AB65025	AB65034
AB65008	AB65017	AB65026	AB65035
AB65009	AB65018	AB65027	AB65036
			AB65037

When you address inquiries direct to manufacturers concerning a new product described here, please mention that you saw it described in American Builder

Exclusive **T & B** FEATURES MEAN A BETTER JOB!



TUTTLE & BAILEY Type FP Convectors — carefully engineered in every detail — combine outstanding features of design and construction that insure a faster, easier installation ... a neat, trim finished job you can be proud of. Ideal for semi-recessed or free standing installation, units consist of a front panel, cabinet body and an

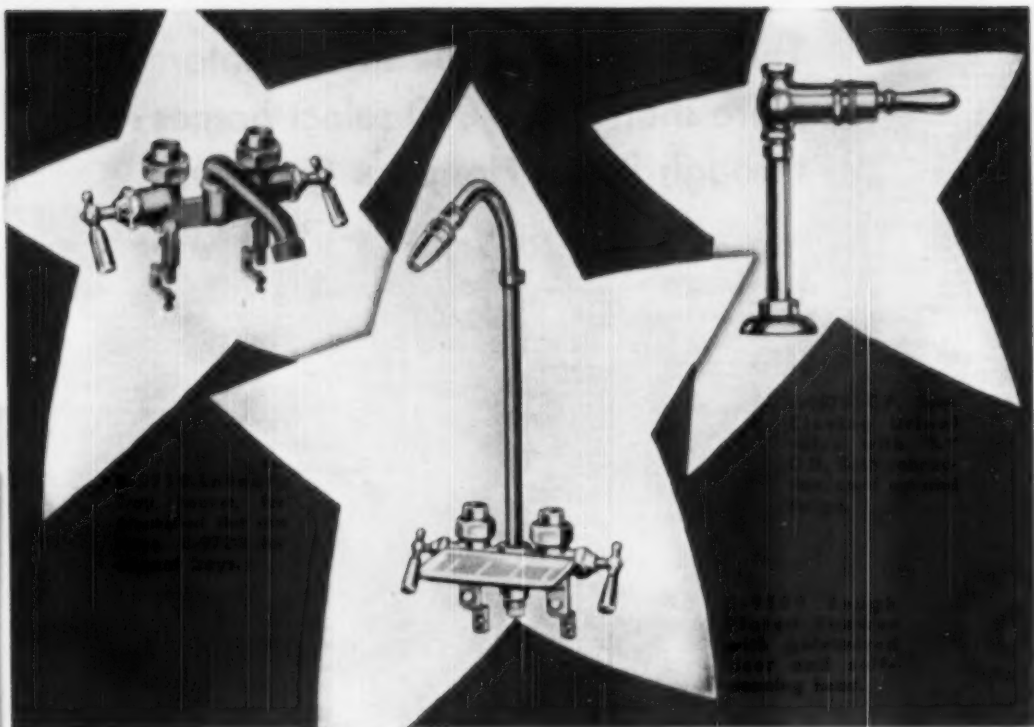
efficient all-copper heating element ... furnished completely assembled in one lightweight carton to facilitate handling.

Feature by feature, you can recommend and install T & B Convectors on your next job — and the next — and be sure of a *better* job!

TUTTLE & BAILEY inc

NEW BRITAIN, CONNECTICUT

49



3 NEW STARS IN THE ELJER BRASS LINE

Eljer's extensive line of brass fittings keeps growing and growing . . . and here are the three newest stars in the line . . . ready to add greater convenience and efficiency to new building or remodeling jobs at low cost.

★ An extra-convenience item for the basement, a sturdy, rough-plated shower with soap tray and self-cleaning head. ★ A handy combination laundry tray faucet complete with clamps to attach to flat rim or cement trays. ★ A self-closing urinal valve with oscillating handle that

offers many advantages over four-arm or squeeze-type handles.

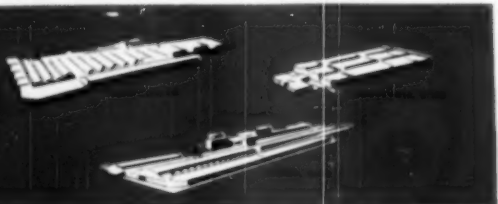
These three fittings are part of Eljer's top-quality line of brass—scores of others are available to give trouble-free service in every installation. And there are still more to come from Eljer . . . watch for them!

WRITE TODAY to Eljer Co., Ford City, Pa., for your free copy of Eljer's new brass goods catalog.



It pays you, it pays us—because we specialize in Plumbing Fixtures and Brass

ELJER





ASSOCIATIONS

Their Plans and Activities



Curbs by Government in England and France 'Frightening': Gerholz

Describing "the strait jacket which bureaucracy has placed upon private industry in England and France" as "frightening," Robert P. Gerholz, president of the National Association of Real Estate Boards, said at a recent California meeting that he was convinced that "we must redouble our opposition to the inroads of socialism in this country."

Gerholz, who has just returned from a trip to England, France and Belgium with Herbert U. Nelson, NAREB executive vice president, spoke at a meeting of 17 real estate boards at Palm Springs, Calif., April 21.

"The one objective of the bureaucrats there—to perpetuate themselves in office and maintain the welfare state—scars one," Gerholz declared. "In England they are doing away with home and property ownership, and it is considered almost subversive to talk about the place or ability of private enterprise to solve the housing problem."

This attitude was dramatically illustrated by two episodes, he added.

"As I talked with two of the top government officials concerned with the housing program, they said that free enterprise was a good thing for the United States—that we had a rich country which could afford it and that it was possible here. Their philosophy for England followed the pet idea of the leftist thinkers that being poor, their country could make ends meet only by employing hordes of bureaucrats to think out new ways of putting production into strait jackets. Of course, they didn't go into the next obvious question of how it is possible for the United States with its 'wasteful' system to maintain the world's highest standard of living and still subsidize the socialistic economies of Europe."

"The other experience was our conversation with the members of the Royal Institution of Chartered Surveyors. About half of these men, who represent the top flight real estate men of their country, have taken jobs with the government 'in order to live,' as they explain it. However, they profess to be in favor of the free enterprise system, but the best evidence we could gather indicates that they have made very little effort to stem the encroachment of the government. In other words, they didn't stand up and

(Continued on page 22)

Honor Membership Leader



PICTURED at local meeting of the Home Builders Association of Westchester County, N.Y., where Alan T. Carnoy, chairman of the membership committee was accorded recognition for his work in achieving 188 per cent increase in membership are, left to right: Robert Beckley, vice president; Frank P. Tulano, president, awarding group plaque to Carnoy; Joseph M. Balta, treasurer; and James E. Cook, secretary. The Westchester association took second honors for increase in membership among local associations with 60 or less members during NAHB's 1949 membership campaign, and was awarded a plaque during annual convention.

New Attendance Mark of 2,763 Set at Iowa Dealer Convention

A new attendance record was established at the 1950 convention of the Iowa Retail Lumber Dealers association when 2,763 persons, 1,228 of whom were Iowa dealers, registered for the meeting at the State Fair Grounds, Des Moines. There were 185 booths, displaying more than 200 manufacturers' products.

Convention delegates chose W.W. Holman, Melbourne, to lead the organization for another year. Two new vice presidents were chosen, G. W. Richardson, Clarinda, for Southern Iowa, and Charles Gunn, Cedar Rapids, for Northern Iowa. W.H. Badeaux was re-elected secretary.

Business sessions were well attended, with more than 1,400 persons being counted at one day's meeting. Nearly 800 dealers, exhibitors and their wives attended the annual banquet at the Hotel Ft. Des Moines.

A number of outstanding speakers appeared on the program. Among them were President Holman; Joseph Leopold



W.W. HOLMAN

of the National Tax Equality Association; Mrs. Lee Hutton, Excelsior, Minn., past president of the American Legion Auxiliary; Philip Creden, Edward Hines Lumber Co., Chicago; G.F. Hoppe, Insulate Division, Minnesota and Ontario Paper Co., Minneapolis; Gene Flack, Sunshine Biscuits, Inc., Long Island City, N.Y.; Art Munk, lumber dealer, Pierre, S.D.; and Col. Robert B. Brooks, Jr., Roy Wenzlick, Inc., St. Louis.

(Continued on page 66)



Cy Sweet Says -

C. S. SWEET, President, National
Retail Lumber Dealers Association

The privilege of serving as president of the National Retail Lumber Dealers Association brings with it both rich rewards and heavy responsibilities. One of the most satisfying rewards is the opportunity to make so many new friends, and meet so many old ones.

Since I took office in the fall of 1948, I have travelled many thousands of miles and have addressed 18 of our fine state and regional associations. Thus, I have come to know and appreciate the retail lumber dealer far better than I ever did before.

The experience has been very broadening, and it also has been most inspiring. One conclusion which has become more firmly fixed in my mind each month, during these extensive travels, is the realization that the retail lumber dealers in this country, both individually and collectively, have attained a stature and a standing of which they may all be proud.

Not only are the dealers of today efficient and forward-looking business men, performing a highly essential function and doing it well, but in addition, they have become a tremendously effective national force, working for the good of the country, their individual communities, and our industry.

It is not so very long ago that the retail lumber dealer confined his operations to the sale of a small line of materials, mostly lumber, shingles, and lath. His horizon was confined to his own locality. When new problems arose, he had to meet them as best he could all by himself.

The progressive dealer of today is operating a highly complex business and extending a long list of valuable services. He carries a far broader line of materials. He often helps the builder and small contractor finance their building operations. He provides plans for houses, garages, barns, farm buildings, stores, or any other structure a customer may wish to build. He shows his customer how to hold down costs and how to improve the quality of his building. Often he precuts lumber and prefabricates building parts.

He has steadily increased the efficiency of his own yard to lower the cost of distribution. He has adopted the most up-to-date methods of merchandising and inventory control. Indeed, he has progressed so far that the most astute and successful lumber dealer of 1900 scarcely would be able to make himself useful as a beginner in a modern lumber yard today.

But that is only part of the story. That tells only what has taken place in the lumber yard. The full story of this remarkable evolution within our industry must take into account the further progress which has occurred, as a result of the foresight shown by the nation's dealers in their willingness to work together on broad-gauge problems, through their state, regional and national organizations.

By working together they have developed a potent and effective voice in National affairs. They have been able to exercise a constructive influence in many directions. This was recently demonstrated in the battle over the costly "middle income housing plan." Through united cooperation the legislation was defeated, at least for this year.

We must keep in mind, however, that this middle-income housing, is just one in the long list of political bribes being offered the American public as a means of securing votes. Housing, along with Federal aid to education, free medical care, control of rents, subsidies to farmers and government power development, are all a part of political bribery.

The public is being told, in effect, "You support and vote for these things, and you will benefit. You will benefit because you will get much more in direct handouts than you will have to pay in taxes."

They are not being told that any financial gain is far more than offset by the ultimate loss of their most precious possession—their freedom of personal action and decision.

We must all, as progressive dealers, continue to cooperate with other segments of free enterprise and show the American people that "Hand-out Street" is a one-way road.

Sees Trend Toward Reduced Government Role in Housing. Bricker Tells Prefab Group

The Congress is beginning to recognize the need for the Government to get out of the housing business, Senator John W. Bricker of Ohio told approximately 100 representatives of members of the Prefabricated Home Manufacturers Institute at the group's 7th annual meeting in Cincinnati April 10-11.

Sen. Bricker described as significant the drastic reduction of the amount of Federal money and credit in the recent housing bill while it was under committee consideration. "In my judgment," he said, the Congress will continue to restrict its present operations, toward the end of complete withdrawal from the field."



JAMES R. PRICE

The prefabricators' meeting was marked by optimism on all sides. President Hart Anderson spoke of the need for continued cooperation throughout the Institute and Manager Harry Steidle traced the benefits of group action in his annual report.

James R. Price of the National Homes Corp. was elected president at the meeting. Also elected to office were John C. Taylor, Jr., American Houses, Inc., vice president; and William B. F. Hall, General Industries, Inc., secretary and treasurer. Directors are Walter H. Ahrens, Southern Mill and Manufacturing Co.; Hart Anderson, Page and Hill Homes, Inc.; and Robert E. Ott, Harnischfeger Corp.

Other speakers included Asa B. Groves, Veterans Administration; Col. C. O. Christenson, Federal Housing Administration; Frederick M. Babcock, housing consultant, Washington, D. C.; and Herbert U. Nelson, executive vice president, National Association of Real Estate Boards.

Burns Speaks at Cleveland

Fritz B. Burns, chairman of the NAHB Public Relations and Education Campaign, was principal speaker at a recent meeting of the Home Builders Association of Greater Cleveland which featured public relations objectives of the building industry. His topic was "Good Public Relations is Good Business."

Fritz Burns Addresses Long Island Institute

An overflow crowd of more than 250 members greeted Fritz B. Burns, president of Kaiser Community Homes, Los Angeles, and past president of NAHB, when he spoke before the March 29 meeting of the Long Island Home Builders Institute. Burns showed pictures and described his Panorama City housing development. Highlights were innovations in outdoor and newspaper advertising techniques which he has used successfully in selling his houses.

The principal topic discussion, however, was the national campaign he is advocating and spearheading to defend private enterprise, principally the private home building industry. At the close of his talk, members of the Institute pledged \$10,000 as part of a \$250,000 national fund to fight socialistic propaganda.

Other guests at this session were Maxine Livingston of Parents Magazine, Beatrice West of the Rahr Color Clinic and Ted Baldwin of the "Good American Homes Program." Baldwin explained his plan to the Long Island builders, who will participate in the 1950 promotion, which features budget analyses for prospective home buyers.

Interesting Features Spark Washington Home Show

Public interest in the 1950 Home Show and Home Furnishings Festival of the Home Builders Association of Metropolitan Washington was greater than ever before, it was reported by Clyde J. Verkerke, show chairman who directed the event along with the Association's executive director, James W. Pearson. The dates were May 12-21.

One of the interesting features of this year's exhibition was the Annual Iris Show, sponsored by the Potomac Iris Club which, in cooperation with the Takoma Park Garden Club, is one of the largest individual garden clubs in the nation.

Another outstanding feature was the "Washington Home Design Competition," which drew entries from city junior high schools, high schools and secondary vocational schools. Substantial prizes were awarded for winning floor plans and home models.

The May issue of the Association's official publication, the Home Builders Monthly, was a special souvenir edition featuring Home Show activities.

Attendance Records Broken At Cleveland Home Show

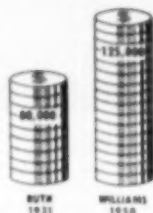
A total attendance record of 202,140 and a daily mark of 34,700 were set at the recent Greater Cleveland Home and Flower Show. Three display houses, built by the Home Builders Association of Greater Cleveland, were visited by approximately 187,000 persons during the nine days of the show.

Cortright's Column

FRANK W. CORTRIGHT, Executive Vice President, National Association of Home Builders of the United States



\$125,000 A YEAR FOR BATting A BALL OVER THE FENCE SEEMS LIKE A LOT OF MONEY



This is the salary Ted Williams, the Red Sox Slugger, will get this year for socking the pill into the bleachers—topping Babe Ruth's \$60,000 salary in 1931 by 50 per cent.

The Foundation for Economic Education has given us a graphic story of what this salary means and how it compares in purchasing power with Babe Ruth's stipend.

First of all, here's the way their silver dollars stack up.



HOWEVER, SOMETHING NEW HAS BEEN ADDED SINCE 1931. Take a look at the take-home pay and note the smaller stack Mrs. Williams has, compared with that Mrs. Ruth could use to keep the wolf from the door.



This doesn't look so bad until it is translated into the necessities of life. Inflation has shrunk the buying power of the dollar since 1931 to the point that Williams' real take-home pay is ONLY A LITTLE OVER HALF OF BABE RUTH'S—57 PER CENT TO BE EXACT.

It is estimated that, if Ted Williams were to have as much buying power this year as Babe Ruth had in 1931, HE WOULD HAVE TO BE PAID \$327,451—in other words, almost exactly four times the salary the greatest baseball player of all times received. (And, of course, Babe Ruth was far more than a great ball player—he stood for clean sportsmanship in the minds and hearts of millions of young Americans.)

What does all this have to do with home building?

It graphically conveys the fact that anyone who hits the ball hard—and really knocks it over the fence—is penalized by the Federal Government and Federal bureaucracy in proportion to the height of the levels of accomplishment achieved. As government domination of business increases, the penalty of higher and higher taxes is inevitable, particularly for those who lead the field.

Actually, Ted Williams is very lucky in the size of the basket of groceries he can buy. Unlike Jack Benny, home builders and successful-business men generally, he is not incorporated. As a result, he does not start by paying exorbitant corporation taxes before he gets down to paying his personal income taxes, as portrayed in the above graph.

SO THE MORAL OF THIS STORY IS—FIRST, HOW GREAT CAN THE FINANCIAL PENALTIES ON SUCCESS BECOME, AND SECONDLY, HOW MANY EARNED DOLLARS WILL IT TAKE TO BUY BABY SHOES?

Unfortunately, all we can do is ask the questions—we don't know the answers.

Florida

(Continued from page 53)

A discussion of installment selling was one of the features of the 30th annual convention of the Florida Lumber and Millwork Association at the Palm Beach Biltmore Hotel, Palm Beach April 12-14. Speakers included C.B. Sweet, NRDA president; Edward G. Gavin, *American Builder* editor; Dr. Frank Goodwin, University of Florida College of Business Administration; Chester C. Kelsey, manager of the Asbestos-Cement Products Association; and Ralph C. Mader, Allied Building Credits, Inc.

Mader told the delegates that "The Lumber Dealer who recognizes installment selling for what it is—the most potent sales tool available today—and gears his sales program accordingly, is obviously going to do business—good profitable business."

"There is nothing complicated about installment selling. On the contrary—it is the easiest way in the world to sell. In fact, since 1934 there have been more than 10,000,000 property improvement loans, made by private lending institutions and insured by FHA under Title I, with total loans amounting to approximately \$4,000,000,000."

Luncheon speaker was Clayton Rand, widely-known Gulfport, Miss., editor. Other convention functions included a Hoo-Hoo concatenation, golf tournament, and dance.

New Jersey

Approximately 800 lumbermen and associates from all parts of the state attended the 66th annual convention of the New Jersey Lumbermen's Association March 22-24 at the Hotel Traymore, Atlantic City.

Re-elected president of the group was Donald E. Sterner, Belmar, former state highway commissioner. Also re-elected were Adolph W. Jaeger, Union, first vice president; Arthur M. Mason, South River, second vice president; G. Bernard Roeder, Hackensack, treasurer; and Edward C. Frick, Verona, secretary-manager.

Speakers included President Sterner, H.R. Northrup, NRDA executive vice president and Harrison Wood, radio commentator and writer. One of the feature panel discussions was on federal and state housing. Among the participants were Emanuel M. Spiegel, president of the New Jersey Home Builders Association, and George W. Seiler, Jr., president, New Jersey Association of Real Estate Boards.

The Association recommended an increase from \$20 to \$25 in maximum weekly unemployment compensation and opposed by resolution any higher figure. Also voted was support for the New Jersey Council for Home Protection, an amalgamation of trade organizations in the housing and allied fields which led the successful fight against the \$100,000 state housing bond last year.

(Continued on page 280)

NEW STATE DEALER OFFICERS



LOUISIANA Building Material Dealers Association officers for 1950, elected at the group's 30th annual convention at the Jung Hotel, New Orleans, March 15-18, are (from left): J. Morton Myatt, Baton Rouge, second vice president; George E. Knoop, New Orleans, treasurer; Thomas H. Harrel, Winnfield, president; R. Needham Ball, Baton Rouge, executive vice president; and Buford Smith, Lafayette, first vice president. Convention was described as best to date; had total registration of 518, and 89 exhibitors and cooperators.



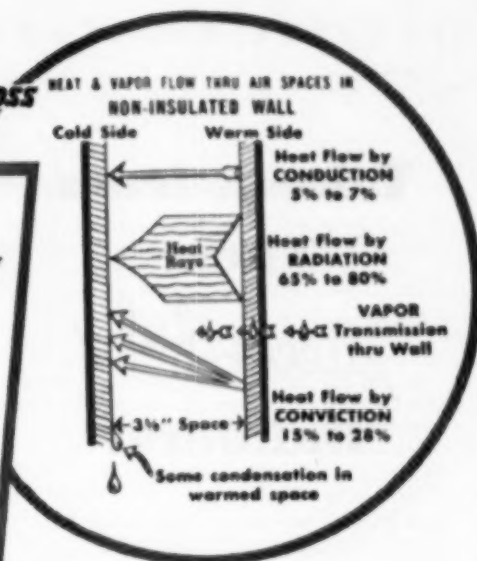
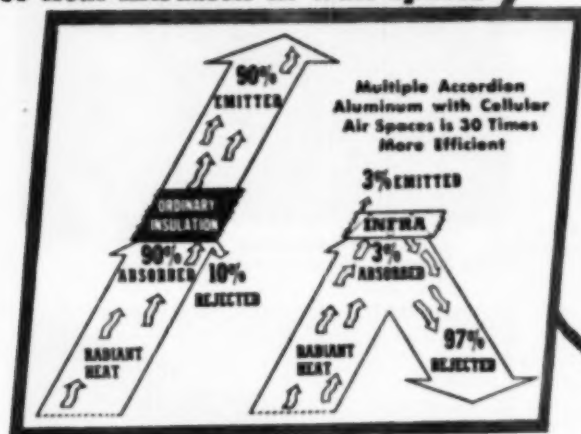
OFFICERS of the New Jersey Lumbermen's Association (from left): Donald E. Sterner, Belmar, president; Edward C. Frick, Newark, secretary-manager; Adolph W. Jaeger, Union, first vice president; and Paul W. Cadwallader, Pennington, the immediate past president.



OFFICERS and directors of the Florida Lumber and Millwork Association, named at recent Palm Beach convention to serve in 1950-51. Front row, from left: L.E. Todd, V.D. Wilder, A.C. Ramsey, M.M. Bennett, secretary-treasurer; L.E. Bladworth, associate director; F.J. Igou, vice president. Second row: H.L. Lawson, national director; A.C. Rivins, Jr., N.E. Hallstrom, J.W. Rourke, associate director; R.D. Morris, president; F.F. Holland, vice president; and J.W. Baldwin. Convention was held at Palm Beach Biltmore Hotel April 12-14.

ALL AUTHORITIES AGREE—

Radiation Causes 65% to 80% Heat Loss Or Heat Intrusion in Wall Spaces



Prof. E. R. Queer, of Penn. State College, in "Importance of Radiation and Heat Transfer Thru Air Spaces," published by the Amer. Society of Heating and Ventilating Engineers, states:

"It has been generally supposed that most of the heat lost through air spaces of building structures was by conduction and convection. However, this is not the case; most of the heat transferred between conventional building materials is by radiation.

"Approximately 75% of the total heat transfer is by radiation."

Convection through air spaces in walls combined with conduction accounts for 20% to 35% of heat flow. Most of the flow, winter or summer, from warm wall to cold, is radiant, effectively barred by multiple layers of accordion aluminum permanently compartmented with cellular reflective spaces. Their slight mass and the spaces bar conduction, their construction blocks convection.

Multiple Accordion Cellular Aluminum Reflects 97% of Heat Rays; Emits 3%

Thick aluminum is absolutely impervious to water vapor, and pushes out fortuitous vapor.

The commercial form of multiple sheet accordion aluminum with permanent reflective cells is Type 4 and Type 6 Infra Insulation, costing respectively, less than 7½¢ sq. ft. and 9¢ sq. ft., material and labor, in new construction between wood joists.

THERMAL FACTORS, TYPE 6 INFRA

Down-Heat C.044, R22.72 equals 7½" DRY Rockwool

Up-Heat C.080, R12.50 equals 4" DRY Rockwool

Wall-Heat C.073, R13.69 equals 4½" DRY Rockwool

VAPOR PERMEABILITY equals ZERO

INFRA INSULATION, INC.

10 Murray Street New York, N. Y.

Telephone: COrtlandt 7-3833

FREE! PROF. QUEER'S BOOKLET ON RADIATION

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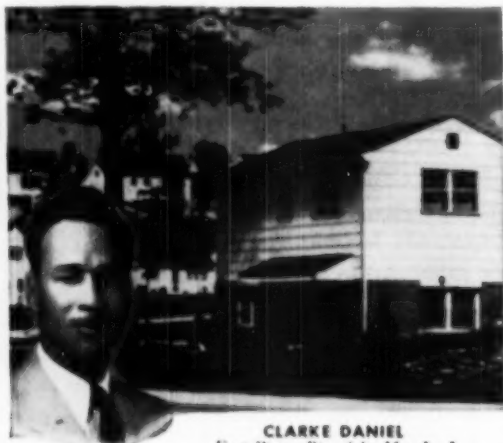
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Selling Requires Salesmen

THE excellent and continuous advertising placed in *American Builder* and many shelter magazines by three leading producers of a certain category of building products has established and continues to maintain their brand names and their reputations for quality in the minds of thousands of builders. Because of style and color variations their products are selected by the builder of custom houses with advice from the owner.

Recently a builder directed a client to any one of the three, but recommended A because of a particular color. The client and his wife presented themselves at the expensive and elaborate display room of A. After an awkward wait a salesman appeared. In the interim it was noted that the windows were dirty. After ten minutes of questioning by the prospect a little information was elicited from the salesman. Nothing in the expensive quarters could be operated. The prospects had to take the salesman's word for what little he had to say, since nothing could be demonstrated. When he did try a "dry" demonstration it was found that the display piece was defective. Finally, the salesman extracted three pieces of catalog information, and one color sample, and placed them in a folder. Then, without asking names, particulars or anything else, he thanked the prospects for the call and ushered them out. In spite of the fact that the prospects were ready to be sold when they entered as they made clear in an opening comment on the color in which they were interested, the salesman did nothing to help, and much to discourage a sale.

Outside, the prospects decided to visit B with no intention of buying, but to get some information. They were met by a receptionist who gave them literature and promised a salesman in a moment or two. The receptionist made good. The salesman appeared. The windows and everything else were clean. The products were set up to operate. The salesman could and did demonstrate. The salesman knew the merchandise and believed in it. In fact, the salesman sold—sold an entirely different pattern and an entirely different color than had been practically decided upon, and after getting the names of the prospect and the builder, presented them with a neatly bound folder of catalog sheets, and an array of color samples of auxiliary materials. B had done a selling job.

Just for curiosity, producer C was visited. After wandering around the expensive but poorly lighted display room unnoticed for ten minutes the prospects left. Nothing but clean windows here. No attempt of any kind to sell. When the prospects got home the builder, who had recommended A, phoned for authorization to place the order with B. The salesman at B had followed through with the builder at once.

There is little to choose between the products, the advertising or the elaborate and expensive displays of all three. Practically the whole wide world, however, exists between their three brands of selling at the customer level, the vital point after advertising and displays have done their work. It is high time that manufacturers and distributors began to give the same meticulous attention to selling at the customer level that they give to creating and developing prospects with convincing advertising and excellent displays.

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AMERICAN BUILDER

Blueprint House No. 42

Walter T. Anicka, Architect



Designed for Concrete Blocks

IN THE design of this month's blueprint house, Walter T. Anicka, architect, Ann Arbor, Mich. uses concrete blocks, a familiar and tested material, in the construction of the exterior walls. These blocks, which in the past have been used primarily as back-up material for masonry walls, have now emerged into the open as a complete unit for facing as well as load bearing.

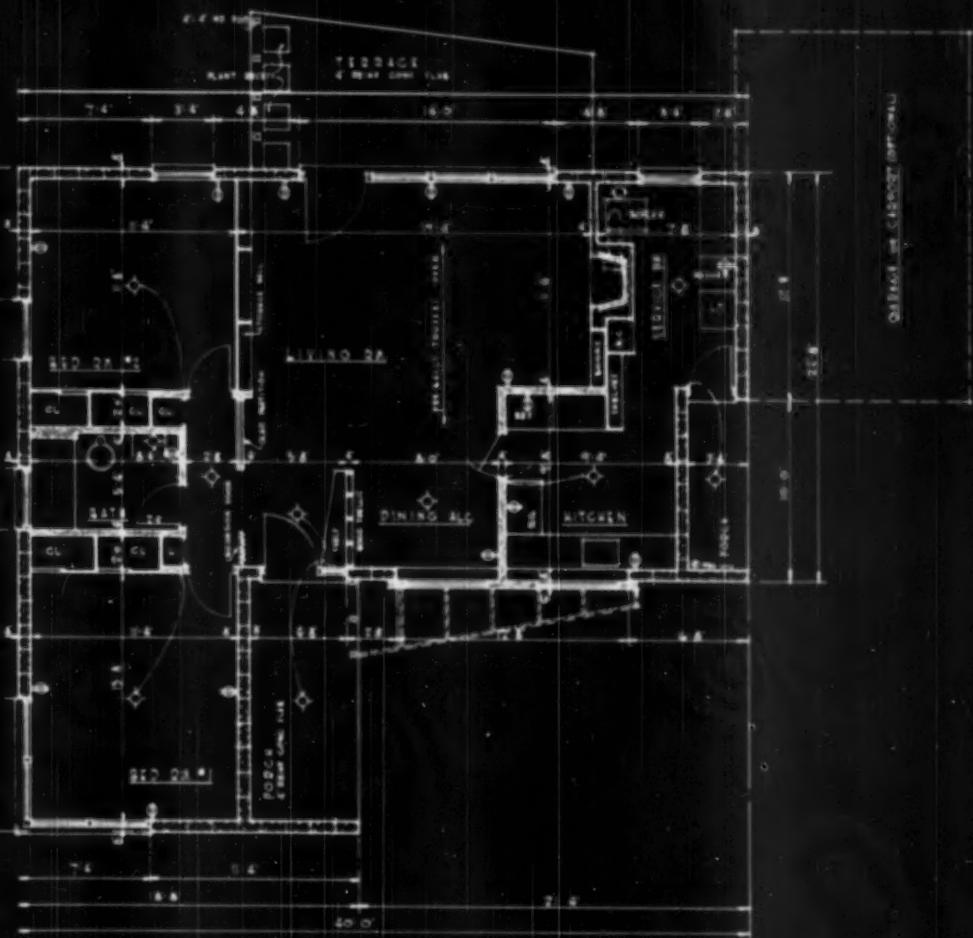
To emphasize the low, horizontal aspect of the current house, the concrete blocks are laid up with vertical joints trowelled flush and horizontal joints raked. To prevent the infiltration of moisture through the joints to the inside, the face of the blocks are furred with 1x2 inch wood strips spaced 16 inches o.c. Dry-wall panels are then secured to furring strips.

The exterior design follows the mid-west version of the ranch-type style

made popular by this designer. The hip roof finishes into a wide overhang around the house, providing shade from summer sun for large windows. Features of the house are the front and service porches which extend into the over-all perimeter, and the extended hay at front with a trellis overhang.

Access to the various areas of the house are easily obtained from the front entrance hall. The front hall is separated from the living room by an open screen. The utility room is an extension as well as a part of the kitchen. The location for a future single car garage is indicated by dash lines. If necessity requires, the garage can be extended in width to provide for additional bulk storage.

This house, which contains 1125 square feet of living area including porches is placed on a concrete mat with perimeter concrete walls.

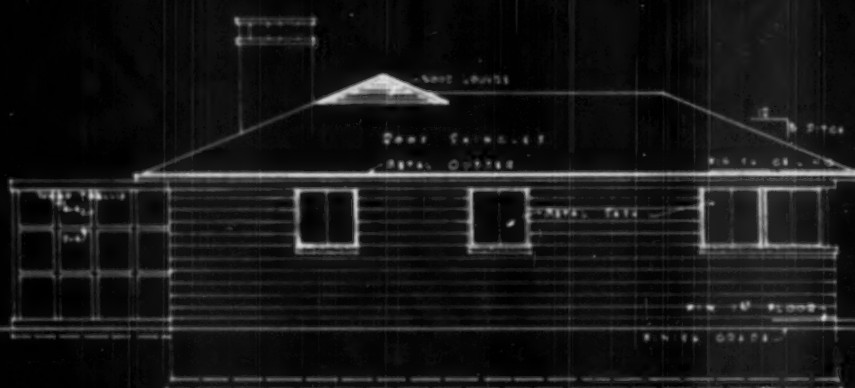
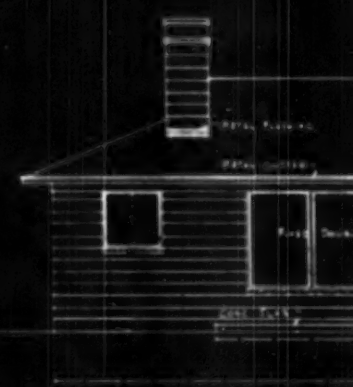


FIRST FLOOR

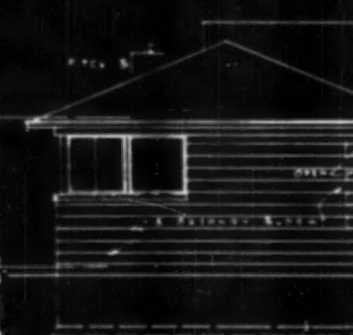
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 AMERICAN BUILDER BLUE PRINT SERIES
 Designed By
 WALTER T. ANICKA ARCHITECT
 Ann Arbor Michigan
 Simmons Boardman Pub. Corp. 79 W. Monroe St. Chicago, Ill.



RIGHT SIDE



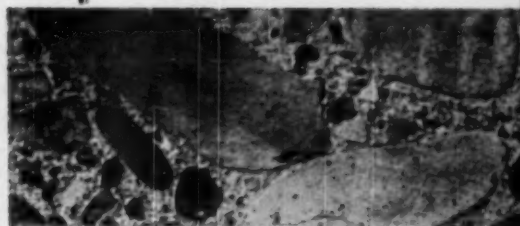
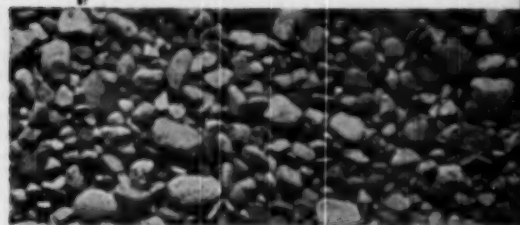
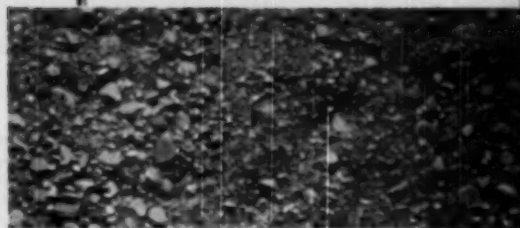
LEFT SIDE



ELEVATIONS SCALE 1/8"=1'-0"

A Report On Cement

and its uses in
light construction



IN THIS SECTION, the *American Builder* presents to its readers the latest information available on the use of portland cement and its products in residential, farm, and other light construction. Source material, photographs, and drawings were obtained from the Portland Cement Association, to which special acknowledgment is due, and from leading manufacturers of portland cement, mortar, construction machinery, and other building products.

JUNE 1950

ABOVE, from top to bottom, are shown portions of well-graded sand, gravel, and coarse aggregate. The lower photograph is a cross section of quality concrete, marked by absence of voids

Introduction

THE process required to change limestone, clay, cement, rock and other raw materials into portland cement is graphically illustrated on the opposite pages. Careful laboratory control, from the initial mining to bulk storing, insures product uniformity for this structural material of a wide variety of uses. The kilns are frequently as much as 12 feet in diameter. Drawing courtesy of Portland Cement Association.

THE ROMANS developed the first cement and used it successfully in the construction of the famed Appian Way, but the art of cement-making was lost in the Middle Ages and was not resurrected until experimentation with hydraulic limes in the 18th century prepared the groundwork for portland cement manufacture. The Englishmen John Smeaton and Joseph Parker and the Frenchman J. L. Vicat all made contributions to progress that culminated in John Aspdin's patent on portland cement in 1824. A few years earlier, Aspdin, a bricklayer of Leeds, England, made portland cement by burning limestone and clay in his kitchen stove. Since the new product was similar in color to stone quarried on the Isle of Portland, it was called "portland cement." In 1872, the first portland cement was made in the United States but imported portland cement had been used for nearly a half century in this country by that time. Not until 1897 did the volume produced exceed the volume of portland cement imported.

Portland cement is composed of lime, silica, alumina, iron oxide, gypsum added to control setting time, and other possible admixtures. The lime and silica ingredients comprise about 70-85 per cent of the cement mass.

After mining, the ingredients are processed through 80 operations before becoming cement of fineness sufficient to penetrate 40,000 openings per square inch, i.e., a sieve capable of holding water. It has been found that coarse particles of cement are almost entirely lacking in cementing power. Innumerable tests of the materials, begun while the limestone is still in the earth, and continued at all stages, insure a remarkable product uniformity. The two processes used in manufacturing—wet and dry—are quite similar except that in the wet process the raw materials are fed into kilns in form of slurry, containing enough water to make them fluid. The steps are these: mining, crushing 1—reducing rock to 6-inch size, crushing 2—reducing materials to 1½-inch size, drying (or wetting), grinding, mixing, pulverizing, burning to incipient fusion at approximately 2700° F., cooling clinkers, grinding clinkers, storing, sacking or carloading.

The U. S. Department of Commerce reports a total of 155 establishments manufacturing portland cement in 1947, including quarries operated in conjunction with these plants. The

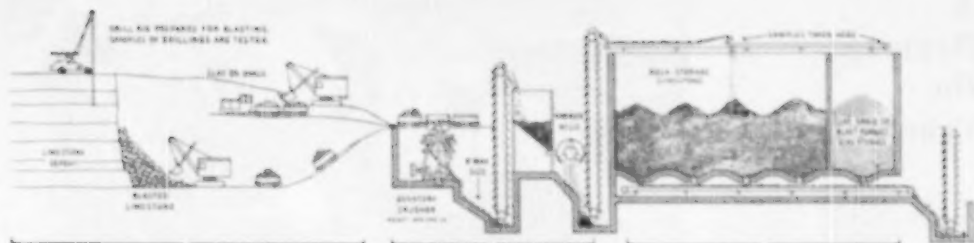
value of their product shipped in 1947 (latest available figures) was \$408,928,000. Cement mills in Canada produced 12,220,000 barrels in this same year.

The American cement industry produces five general types to meet the varied needs of builders: type I, the more common type—for general concrete construction when the special properties of the other four types are not required; type II—for use in general concrete construction exposed to moderate sulfate action, or where moderate heat of hydration is required; type III—for high early strength; type IV—for use when a low heat of hydration is required. The type V is designed to provide high sulfate resistance. The sulfate chemicals in air and in soils, notably in the West, and the heat of hydration which reaches extremely high temperatures in large masses and high air temperatures are the conditions met by these special types. There are other special types, of course, for example—air-entraining cement and white portland cement. At least four different types of high-early strength cements are available to the user.

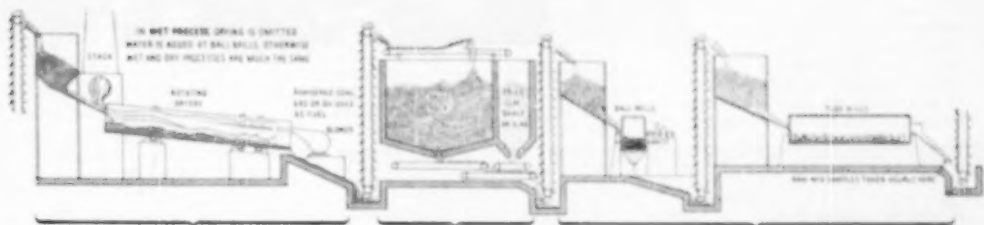
The air-entraining cement contains small amounts of soaplike or fatty materials ground with the normal clinker. These materials increase the air content and are an aid in resisting severe frost action. They help prevent scaling, particularly on pavements, due to applications of calcium or sodium chlorides used for snow removal.

Cement will retain its essential qualities indefinitely if it does not come in contact with moisture. Therefore, special precautions must be taken in storing it. Sacks should be stacked close together to prevent circulation of moisture-born air. They should not be placed against an outside wall, nor should buildings used for storing cement have openings at the roof-wall intersections. The cement should be placed in a weathertight structure, at least 1 foot from the ground. If cement has formed lumps that will not break when tapped lightly with a shovel, it should not be used. Occasionally, cement will cake when stock-piled. In such cases, it can be pulverized by rolling sacks on a flat surface.

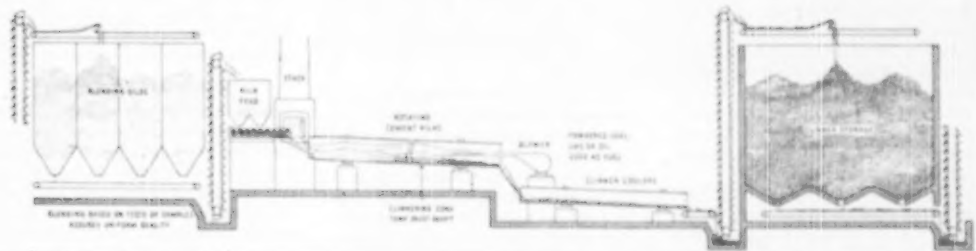
Cement is packed 94 pounds per sack of one cubic foot loose volume. The standard cement "barrel" of 376 pounds is now only a measure used in calculations involving large quantities.



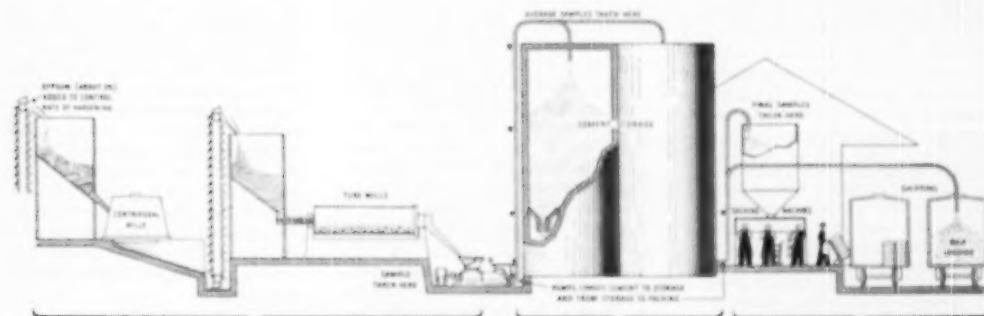
Limestone and clay or shale are **QUARRIED** ... then **CRUSHED** to gravel size ... and **STORED** separately.



The two materials are **DRIED** ... **PROPORTIONED** by weight ... and **GROUND** to fine powder called "raw mix".

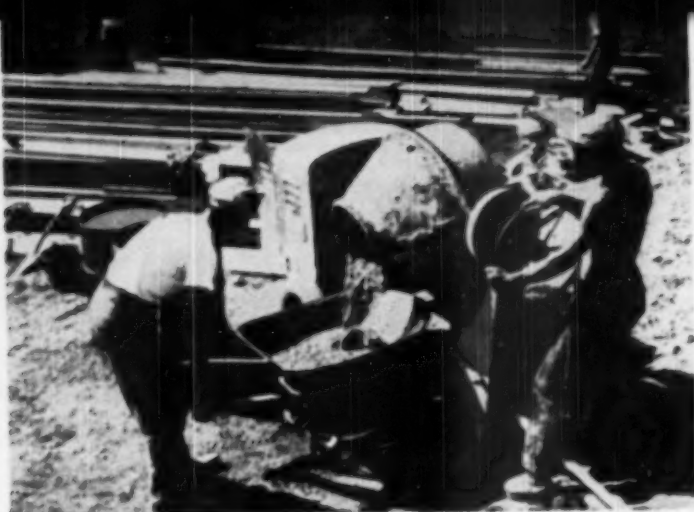


Thoroughly **BLENDED** ... mix is **KILN BURNED** to partial fusion at 2700°F. forms glass-hard cement clinker resembling pebbles.



With **GYP-SUM** ADDED, clinker undergoes **FINISH GRINDING** into portland cement ... is **STORED** in silos ... until **PACKED** and **SHIPPED**.

A Report On Cement



Concrete

CONCRETE consists of hard aggregates held together by a hardened paste. This paste is the determining factor in forming the qualities of the concrete if the aggregates themselves are adequate. The paste, a mixture of portland cement and water which binds the sand, gravel, crushed stone, and other materials, hardens following a chemical reaction.

The water itself serves two purposes: it furnishes elements that are a part of the chemical reaction that hardens the paste, a reaction that ceases when the concrete is dry, and, secondly, it affects the workability of the mixture. An adequate amount of water to satisfy one of these functions may not meet the requirements of the other function in a given situation. The strength of portland cement-made concrete increases as long as moisture is present to promote the hydration of the cement paste, but one of the fundamentals of concrete formulae is expressed in this statement:

For given materials and conditions of handling, the strength of concrete is determined primarily by the ratio of the volume of mixing water to the volume of cement so long as the mixture is plastic and workable.—*Portland Cement Association, Reference Book, 1948.*

The durability, watertightness, and

strength of concrete depend on the amount of water used, but the set and hardening process of the paste is the same whether alone or used with aggregates.

The paste in the concrete mixture generally constitutes about 23-34 per cent of the total volume of the concrete. The absolute volume of the cement ranges from 7 to 14 per cent, and the absolute volume of the water from 15 to 20 per cent. The aggregates occupy 66 to 78 per cent of the volume.

Economy in Concrete

In order to secure economy in concrete without sacrificing any of the qualities, it is necessary to select an aggregate with as low a total surface area as possible and as few voids and air spaces as possible so that the binding function of the paste is fully exploited. Both fine and coarse aggregates must be well-graded for maximum economy so that the finer particles will fill spaces between larger particles, fill the voids, and aid in binding the concrete. In fine, at least 10 per cent should pass a 50 mesh sieve. It should be observed that the volume of mixtures is not the sum of the individual parts, since the smaller particles fill in the spaces among the larger particles in the concrete mixture. The best composite aggregate is one well graded up to the largest effective size.

Most natural aggregates, such as bank-run gravel, are generally too fine to be economical, and they are likely to contain foreign matter.

Water for Concrete

Water used on concrete should satisfy certain minimum requirements, including freedom from vegetable and other deleterious matter. Water that is clean, free from oil, alkali, or acid—water that is fit to drink—is usually suitable for making concrete. Sea water reduces the compressive strength of concrete 10 to 20 per cent from the standard possible by comparable use of fresh water. Of course, this reduction can be lessened by using the minimum amount of water. This sea water does not corrode the steel reinforcement in cement, but it does hasten the corrosion of exposed steel.

Dirt, silt, clay, chert, mica, salts, humus, and organic matter are undesirable as aggregates. Also weak, friable, or laminated stones should be avoided. Flat, elongated, slivery particles are not recommended, for, among other things, they are uneconomical. Silt, clay, and loam are objectionable because they coat particles and prevent the cement paste from forming permanent bond with the aggregates.

Tests for Aggregates

If the builder is in doubt about the

AMERICAN BUILDER

qualities of the aggregates, simple silt tests can be made with them. Here is the procedure for one simple test:

A. Fill a quart fruit jar to a depth of two inches with a representative sample of the dry sand to be tested.

B. Add water until the jar is three-fourths full.

C. Shake the jar vigorously, finishing the cycle shaking the jar sideways to level off the aggregate.

D. Allow the jar to stand for one hour.

E.) A silt deposit in excess of $\frac{3}{8}$ inch on top of the settled sand indicates that the aggregate is not an adequately clean material for use in concrete.

A second test for the presence of objectionable vegetable matter is made as follows:

A. Fill a 12 ounce size prescription bottle to the $4\frac{1}{2}$ ounce mark with a sample of the sand to be tested.

B. Add a three per cent (by volume) solution of caustic soda, obtainable at most pharmacy shops.

C. Shake the bottle vigorously.

D. Allow the bottle and its contents to stand undisturbed for 24 hours.

E. At the end of 24 hours, a colorless liquid in the bottle indicates that the sand is clean. A straw-colored liquid indicates the presence of some, but not a dangerous amount of vegetable matter. Darker colors reveal that the aggregate is not suitable for concrete.

Aggregate Grading

Fine sand (beach sand) and coarse aggregates are not good combinations for use in making concrete because the wide difference in their sizes leads to segregation of the particles in addition to requiring an uneconomical amount of cement paste. A coarsely graded sand furnishes a better mixing material.

The constituent parts of the fine aggregate should fall within these ranges:

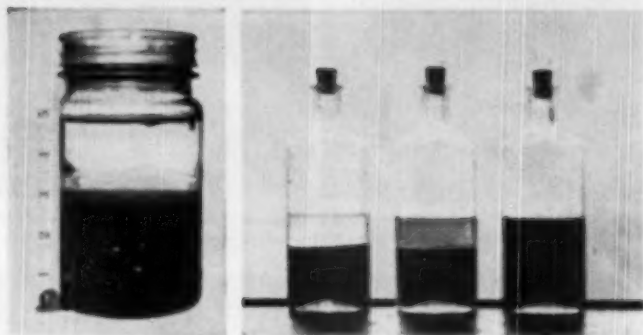
Passing a #4 sieve	95-100 per cent
Passing a #16 sieve	45- 70 per cent
Passing a #50 sieve	15- 30 per cent
Passing a #100 sieve	3- 8 per cent

There should be no more than 35 per cent retention on the next smaller sized sieve.

The ranges for coarse aggregate are:

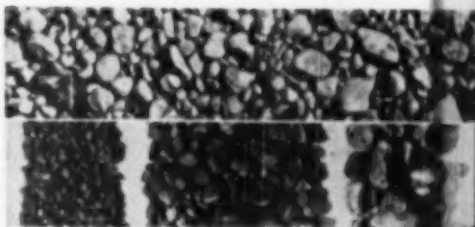
Passing—	
$1\frac{1}{2}$ -inch sieve	95-100 per cent
$\frac{3}{4}$ -inch sieve	35- 70 per cent
$\frac{1}{2}$ -inch sieve	10- 20 per cent
#4 sieve	0- 5 per cent

The Bureau of Reclamation stipulates that the modulus of sand should

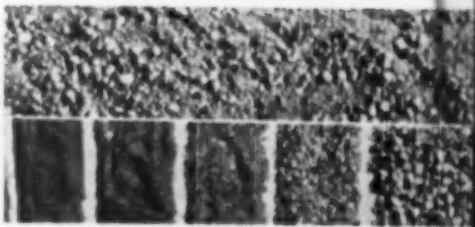


THE mason jar, at left above, was used for testing for silt in a sample of dry sand. Water and the sample were placed in the jar, in the proportions indicated, which was then shaken vigorously and allowed to stand. Since the upper layer of silt is in excess of $\frac{1}{8}$ inch, this sand is unsatisfactory for use in quality concrete. The prescription bottles, right above, were filled with different sand samples in each and a 3 per cent solution of caustic soda to test for the presence of vegetable matter, revealed by the color of the solution after standing for 24 hours. Colorless liquid of the left bottle indicates that this sample is clean. The middle bottle reveals the presence of some, but not dangerous, amounts of vegetable matter. The sample in the right bottle is not suitable for concrete.

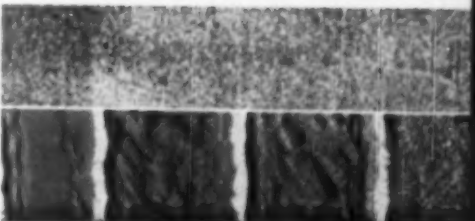
THIS is how a well-graded coarse aggregate looks before and after being separated into three sizes. From left to right in the separated aggregate: $\frac{1}{4}$ to $\frac{1}{2}$ inch, $\frac{3}{8}$ to $\frac{1}{2}$ inch, $\frac{1}{2}$ to $1\frac{1}{2}$ inch. Note how pieces fit in mixed aggregate.



SAMPLE of well-graded sand before and after separating into various sizes. Particles vary from fine to those just passing the No. 4 sieve. Width of strip indicates the amount of each size sample.



SAMPLE of sand which lacks particles larger than $1/16$ inch. More cement is required when sand is fine, therefore this is not a good cement sand.





THREE degrees of moisture in sand are illustrated above. Left—sand that falls apart when clumped is damp. Center—sand that forms a ball is wet. Right—sand that sparkles and wets the hand is very wet

A Report On Cement

be between 2.50-3.00. This modulus is the summation of cumulative percentages of material retained on standard sieves divided by 100. For leaner mixes, a grading approaching maximum percentage passing each sieve is desirable. For richer mixes, a grading approaching the minimum percentages passing each standard sieve is desirable for economy.

A general standard for aggregate sizes is this: fine—sand up to $\frac{1}{4}$ -inch in size, excluding dust. Coarse—pebbles, crushed stone, and other $\frac{1}{4}$ -inch or larger. The size of the aggregate used varies with the requirements of each specific job. The maximum size should not exceed one fifth of the minimum dimension. In thin sections of concrete, the aggregates should never exceed one-third of the width of the section. A $\frac{1}{4}$ -inch clearing space should be provided between reinforcing rods to facilitate passage of the aggregate.

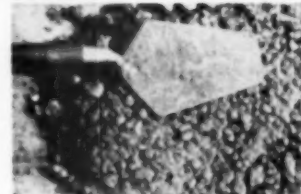
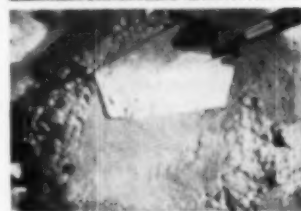
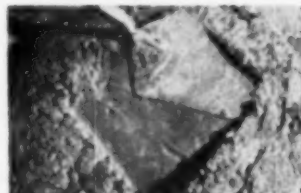
Sand falls into four general categories with respect to wetness; it is air dry, damp, wet, or very wet, depending on the water content. Since the water in the sand also contributes to the hydration of the cement, it must be considered in planning the mixing ratios for concrete. Air dry sand contains little or no water; damp sand holds $\frac{1}{4}$ gallon of water per cubic foot; wet sand contains $\frac{1}{2}$ gallon of water per cubic foot; and very wet sand holds $\frac{3}{4}$ gallon of water per cubic foot. Sand is usually "wet" but its water content can be checked

adequately by drying the sand in air, and adding measured amounts of water to prepare sand of the same consistency and feel as the original sample. To hasten the drying, the sand can be spread on a thin surface, saturated with alcohol which is ignited and allowed to burn until the sand is dry. As an alternative, one can weigh the sample first, dry it with the use of burning alcohol, then weigh the dried sand to determine the water content as a percentage of weight.

Sand Fluffing

When moisture is added to dry sand, a film of water is formed around each sand particle, adding to its surface and causing a "fluffing" of the sand—and increase in volume—until the water reaches the six per cent saturation point. After this amount has been reached, the "fluffing" is decreased because of the increased weight, and the sand becomes compacted. Failure to allow for this bulking increases the cost of concrete and leads to under-sanded mixes. At five per cent water content, one cubic foot of dry sand, absolute volume, occupies 1.2 cubic feet.

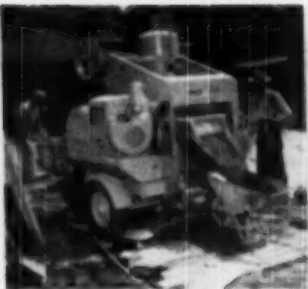
Care should be taken in storing aggregates. For example, fine and coarse aggregates should not be blended by stockpiling the materials in alternate layers, in yards, in cars, or in trucks. Stocks built up into high cone-shaped piles will separate into fine and coarse groups. Damp materials separate less, of course, than dry ones that can also be segregated by wind action. Good storage bins, which



THE top photograph shows stiff, medium, and wet mixtures of concrete. The stiff mixture is suitable for footings and walls. The medium mixture is suitable for tank walls, floors, and slabs. The wet mixture has limited uses for thin walls and columns. The views immediately above, from top to bottom, show three consistencies of concrete after troweling. The middle sample contains the correct amount of cement-sand mortar for a good workable mixture, for with light troweling, all spaces between the aggregates are filled with mortar, providing a dense surface



BUCKETS aid in proportioning small batches



THIS mixer has water tank with calibrator



STANDARD test determines concrete slump

are round or nearly square, slope not less than 50 degrees from all sides to the center outlet. Chuting materials against sides of containers or storage bins also promotes segregation of the particles.

Measuring Aggregates

Quality concrete begins with the accurate measurement of the ingredients. Haphazard divisions of sacks is an inadequate method for measuring cement for mixtures. As an alternative for measuring cement and aggregates, a bottomless box of exact capacity can be loaded on a movable flat platform or in the mixer hopper. Since a cement sack contains one cubic foot, loose volume, the emptied sack can be used to determine how many full shovels equal one cubic foot by filling the sack with the average shovelful used. Wheelbarrows can be calibrated by dumping measured cement sacks full of material into the barrow and marking it or by weighing the barrows on platform scales. Marked buckets are a satisfactory method of measuring water, but calibrated water tanks are frequently provided on mixers by manufacturers.

Trial mixes are used to determine the standard batch makeup. It should be remembered that natural sands and

gravel contain free moisture that becomes part of the mixing water, contributing to hydration of the cement. Perfectly dry materials absorb water into pores, as much as one per cent by weight. If one is sampling sand to determine moisture content, the surface water of the aggregate only should be removed, for, otherwise, allowance must be made for the absorption of moisture by the aggregate.

The trial batch for regular use should have about a four-inch slump if used with vibrating mechanisms or about a six-inch slump when placed without being vibrated.

Slump Tests

The slump test is an approved method of determining the adequacy of a particular concrete batch. A mold of eight inches diameter at the base and four inches diameter at the top, measuring 12 inches high, in the shape of a cone segment, is made of 16 gauge metal with foot straps and handles. This mold is filled with the test materials in three or more layers, each one of which is tamped with a $\frac{5}{8}$ -inch rod 25 times. The mold is then removed and the slump measured at once. The need for field tests is, of course, determined by the size of the

job and prevailing ordinances. Both laboratory and field tests are recommended to establish confidence-inspiring data.

Sloppy mixtures are avoided by builders because they separate in handling; that is, the aggregates and paste settle apart. The first batch in a dry mixer is always stiffer than following ones in a wet mixer unless the drum is first dampened thoroughly. If the trial batch is not adequate, its consistency should be changed by varying the amount of aggregate in the mixture.

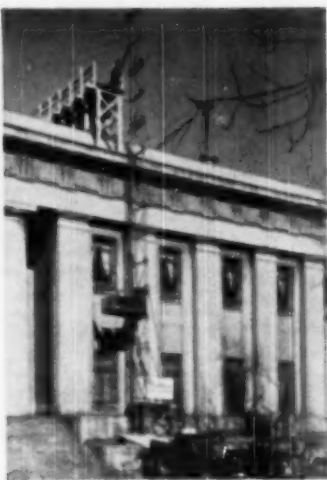
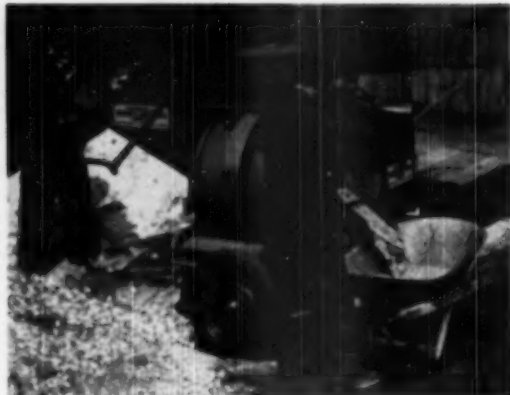
The stiff mixture is usually the economical one, but not when it is too stiff to handle conveniently. Further, extra care must be taken with stiff mixes to avoid porous or honey-combed concrete. The shrinkage of concrete is approximately proportional to the amount of water used. However, it is also poor economy to require excessive labor for tamping and spading to place stiff mixtures.

The usual proportions of sand and coarser aggregate are about 40 per cent sand and 60 per cent coarse aggregate up to $1\frac{1}{4}$ inches. For coarse aggregates up to $\frac{3}{4}$ inches, a 50-50 proportion of aggregates is appropriate. However, the method of specifying the mixture with the use of

SUGGESTED CONCRETE MIXES

Kind of Work	U. S. gallons of water to add to each 1-sack batch			Trial mixture for first batch			
	Damp sand	Wet sand	Very wet sand	Cement, sacks	Sand, cu. ft.	Gravel or crushed stone, cu. ft.	Maximum aggregate size, inches
Foundation walls which need not be watertight; footings for walls, columns and chimneys; retaining walls, garden walls.	6%	(Average sand) 5%	4%	1	2%	4	1"
Watertight basement walls, walls above ground, driveways, walks, floors on ground, basement floors, porch floors, paved terraces, concrete steps.	5%	(Average sand) 5	4%	1	2%	3	1 to 1"
Suspended reinforced concrete floors of all types; reinforced concrete posts and columns, sills, lintels.	5%	(Average sand) 5	4%	1	2%	3	$\frac{1}{2}$ "

Machines for Concrete Construction



LEFT to right, top to bottom, Jaeger 3 1/2 S non-tilter mixer, Box 3 1/2 S tilter, Box 6 S non-tilter, CMC 3 1/2 S non-tilter, Box 3 1/2 S non-tilter, and Jaeger light construction hoist. Photos courtesy Jaeger Machine Company, Construction Machinery Company, Chain Belt Company

sand, aggregate, and cement ratios is unsatisfactory since it does not specify the water content nor does it consider the gradation. The water-cement ratio is a better form of specification.

Mixing Concrete

In mixing, the factor of importance is to get all particles of the aggregate coated with the cement paste. Although increasing the speed of a concrete mixer above the usual peripheral speed of 200 feet per minute does not affect the mixing efficiency of the machine, the time factor is important, for two-minute mixed concrete is 20 to 35 per cent stronger than concrete of the same batch mixed for 15 seconds only.

Care should be taken not to overload concrete mixers. Since worn or heavily coated blades reduce the efficiency of a mixer, it is also essential to keep the interior of the mixer drum clean.

The steps in charging a concrete mixer are these:

A. Add about 10 per cent of the water to be used.

B. While allowing the water to run, add the aggregate.

C. Add the cement.

D. Add the last 10 per cent of the water.

A one-minute mix after all materials are in the mixer is sufficient in a machine of one cubic yard capacity or less. Add about 15 seconds mixing time for each half yard capacity increase in mixer size. The concrete must be discharged within 1½ hours at the most to avoid seriously affecting its characteristics. The initial set takes place within two or three hours after mixing the cement with water. Water should not be added to mixtures to rework them.

Mixer Standardization

Mixer manufacturers through the Mixer Manufacturers Bureau have effected a standardization of concrete mixers. There are, today, nine sizes of mixers available to builders, ranging up to 4 cubic yards capacity. They have also promoted modernization of the machine. A few decades ago, mixers were usually mounted on steel wheels with side discharge provisions. The modern trailer machines, mounted on pneumatic tires for ease of movement, are principally end discharge. Sizes of concrete mixers are designated by a number indicating the capacity of the mixer followed by the letter "S." These standardized machines have a guaranteed capacity of the normal indicated capacity plus 10 per cent. The standard mixer sizes are: 3½S, 6S, 11S, 16S, 28S, 35S, 56S, 84S, 112S.

Placing Concrete

The manner in which the mixed concrete is handled has a determining effect on its ultimate quality. The mortar or paste in the wet concrete tends to flow ahead of the coarser aggregates. Care must be taken to reduce the amount of such segregation. Of course, the first essential in placing the concrete is to be sure that the areas to receive the concrete are clean. Subgrades should be moist to reduce absorption.

Before placing concrete, filled low spots to receive concrete are tamped thoroughly. Sawdust, nails, and all other such materials are cleaned from the forms. Then wood forms should be saturated to reduce absorption. Plywood forms are frequently lacquered for this purpose. When placing new concrete against old or hardened concrete, the material in place is coated with a ½ to one-inch layer of cement mortar, with about a six-inch slump.

In slab construction, start at the far end and pour against concrete in place. Do not dump the mixture in separate piles. If necessary, the coarse aggregate should be redistributed if it has settled apart. In walls, the first batches should be put at opposite ends and the additional loads worked to the middle of the wall. In large open areas, it is recommended that the perimeter be placed first. These recommendations are based on the fact that excessive moisture tends to flow from the mix and is likely to accumulate at the corners or in the perimeters, affecting the quality of the concrete in these strategic locations if these precautions are not taken.

Hauling concrete for long distances and dropping it freely more than three or four feet without the use of chutes are harmful. Concrete, if allowed to flow in forms, will separate. For this reason, it is dropped vertically, not allowed to bounce, in metal chutes within forms. In long movements with barrows, stiff consistencies are needed to preserve the uniformity of the mixture. Chutes used should be between 1 : 3 and 1 : 2 slope. In long chutes, it is best to deliver the concrete to a remixing hopper before placing.

When all of one section cannot be poured at once, the surface of the placed concrete is roughened to provide a good bonding surface for the next placement. Grouting is essential when the placing is recommenced. The grout is applied just a few feet ahead of the operations to prevent its drying.

When placing concrete in segments, a straight bonding joint can be formed at the top of the form either by screeding the concrete carefully at the form top or by nailing a one-inch strip to

the inside of the form, flush with the top of the form, so that the underside of the strip makes a straight break. Although keyways are an important method of binding sections, thin keyways for vertical joints may actually be damaging to a structure due to their propensity for breaking. Crimped copper strips, folded back against the form, but partially imbedded in one section, are used successfully in joining sections. The folded section of the strip is straightened out when the adjoining section of concrete is placed.

When placing concrete in high walls or columns, fill the forms to within one foot of the top, at intervals not exceeding six feet, in layers one foot thick. The placed concrete is then allowed to settle for one or two hours before the final foot is placed. When in place, it should be spaded, compacted, and straight-edged. If it is in a slab, the concrete is wood troweled after the film of moisture disappears. Steel troweling should be delayed as long as possible and done sparingly.

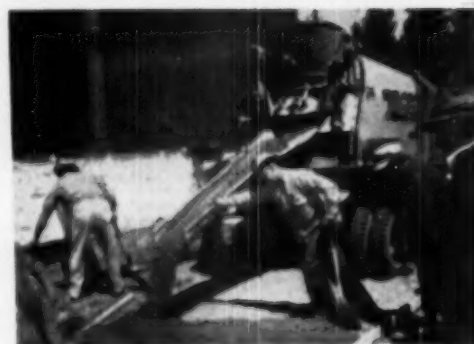
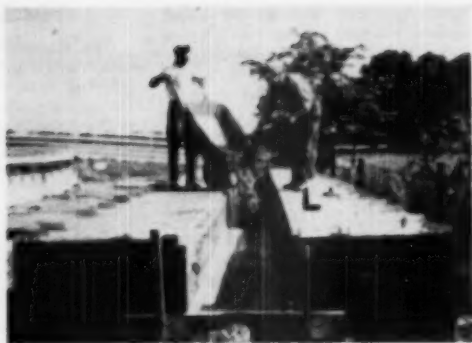
Since concrete expands .66 inches per 100 feet per 100 degrees Fahrenheit variation, expansion joints are necessary in some structures to absorb this stress. Butt strips, metal, bitumen-treated felt, and other devices are used for this purpose.

Concrete can be conveniently pumped if circumstances warrant such an alternative. The advantage of this method, insofar as the quality of the concrete is concerned, is that only workable concrete can be pumped. The method also facilitates placement. Capacities of pipes, six to eight inches o.d., are 20 to 65 cubic yards per hour.

Concrete Vibration

Vibrating the concrete during the placement is economical because more aggregate can be used in the mix. Stiffer mixes, requiring less water, are essential since vibration may cause segregation in sloppy mixtures. Earlier finishing of surfaces and removal of forms are possible after vibration. Although the internal vibrator is more generally used, the external vibrator, clamped to the outside of the form, is sometimes the only alternative. Surfaces for heavy duty work can also be vibrated with special surface vibrators.

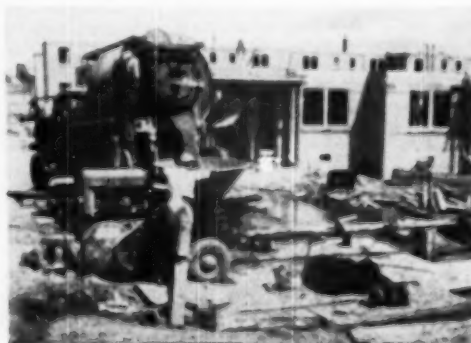
Delayed vibration is not injurious so long as concrete becomes plastic; but if the vibrator leaves depressions when withdrawn, its use is quite likely to be harmful. Vibrators should not contact projecting reinforcing rods in concrete that has hardened since the rods will thereby be worked loose. If vibrators are allowed to contact forms, they will gouge form faces.

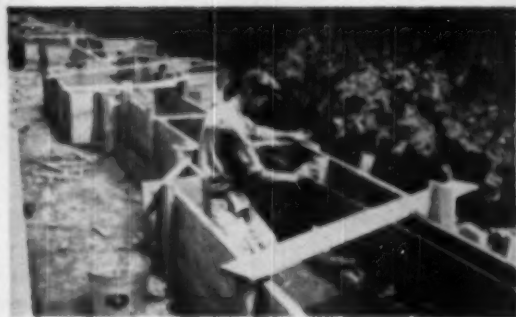
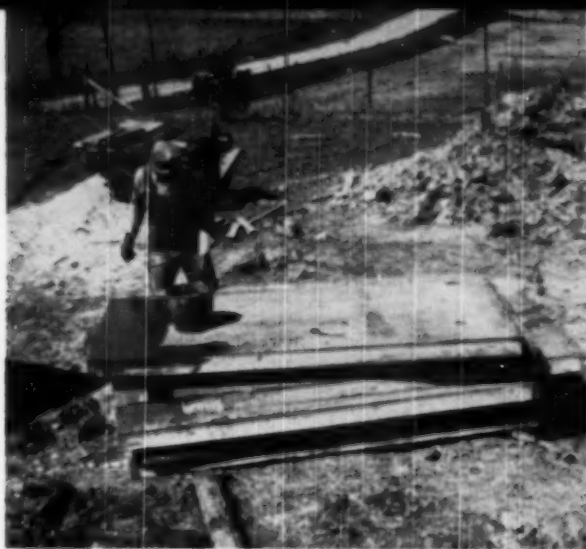


A Report On Cement

Five Different Ways for Placing Concrete

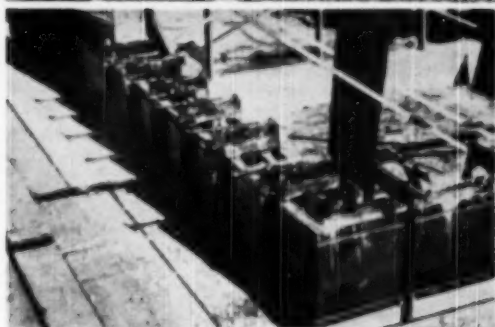
SHOWN on this page are five different, approved methods for placing concrete, each one of which is the best available for a particular job. At the upper left, the hand-mixed shoveled-in-place technique is still the most economical for small placements. The wheelbarrow carries most of the concrete poured to its final location, although the convenience of ready-mix trucks has usurped many of its former assignments. Hoists and chutes are more economical for larger jobs while pumping of concrete is suitable for many larger projects, as shown in the right lower photograph, in use on Indiana housing project





LEFT and above, workmen coat forms with oil to reduce water absorption

BELOW, earth can only infrequently be used as part of form. It must be solid



STEEL form, above, in use on a housing project, has an inner core designed for the construction of cavity cast in place wall



Form pressure is increased when the concrete is vibrated, a factor that may necessitate extra form supports. The air content of concrete is reduced .05 per cent by vibration.

Vibration itself does not make concrete stronger, but it does permit the use of stiffer, harsher mixes. Mixes that can be worked by hand should not be vibrated, nor should the vibrator be used to move concrete within the form. It is generally employed effectively at 18-inch intervals with some overlapping of the vibrated areas. If lower layers have stood for some time, before vibrating upper portions in a placement, vibrating will cause a wavy line at the joint of the two placements.

Forms for Concrete

Forms used for concrete should be strong, well braced, have little leakage, be easily removed, and have temporary openings for cleaning, but the selection of the form material frequently depends upon the concrete surface desired. When using wood forms, tongue and groove sheathing

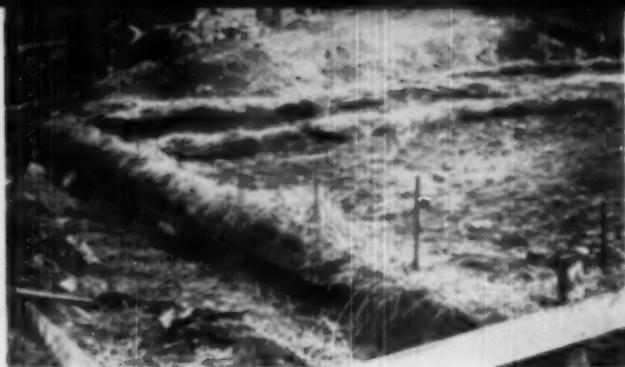
serves best, with 2 by 4 studs, 2 by 6 stringers, and 3 by 4 posts, struts, and shores. When strips are used within the forms for forming flutes in the concrete, they should be kerfed in the back. For forming triangular shapes, overlapped, joined strips rather than single strips are more workable.

When constructed in panels and sections, forms are more easily removed. Oiling forms prevents adhesion and helps preserve them—as does whitewashing, although these coatings should not be used against concrete that is to be painted or stuccoed after removal of the forms. For such instances, the forms can be coated with paraffin oil diluted with kerosene or benzine.

Forms must be tight because paste leakage will change the composition of the concrete. Joints likely to allow paste leaks can be pointed with equal parts mixture of beef tallow and portland cement. Box nails are generally more serviceable than common nails in temporary form construction because of their thin shank. Double-headed nails will help speed operations.

Special grades of plywood are particularly available to builders specifically for form construction in sizes up to 4 by 8 feet, $\frac{1}{2}$ to $\frac{3}{4}$ inches thick. One type of plywood for concrete forms has a special plastic surface that reduces absorption and provides a smooth monolithic finish. Such forms can be re-used frequently and are especially adaptable to the repetitive manufacture of castings. These, as are all other panel forms, are cleaned immediately after use with brooms and are stacked in flat, level groups to preserve their shape and trueness.

Manufactured form panels and form ties offer certain time-saving and labor-saving advantages to the builder. The form panels, generally available in sizes ranging from 2 by 4 feet to 4 by 8 feet, are designed to be used with special connecting bolts, tightening devices, "U" tie-holders, "S" tie-holders, and ties inserted at the edge of forms so that they do not have to be threaded through small openings. Ties at the vertical edges have a second advantage: the form panel can be lifted straight up when



WORKING with concrete in cold weather demands special precautions, such as heating materials and covering fresh concrete in place as these two photographs illustrate

being removed. These manufactured ties are also generally made with a special break point so that they will snap about one inch back from the face of the wall when twisted slightly.

Magnesium forms will not swell when wet, contract when dry, nor will they rot. In addition, their precision manufacture assures a smooth surface with but faint dividing lines. Both the magnesium forms and the plywood forms with magnesium frames weigh less than three pounds per square foot. Plywood edges of the latter type are protected by a magnesium butt strip. A number of these manufactured forms are sturdy enough to support runways and scaffolding in addition to the form load.

Earth does not make a good form back-up, especially when it is necessary to spade the concrete, since dirt is likely to be mixed into the concrete.

Prestwood forms should be thoroughly wet for 12 hours before using, as should wood forms, before concrete is placed, to reduce water absorption.

Forms can be removed, generally, within one or two days in summer weather, and within four to seven days in winter weather after placement. When removing forms, pinch bars must not be used braced against the fresh concrete; if wedging is necessary, wood wedges should be used. When removing forms from projections, start away from the projection and work toward it. Leave recessed forms in place as long as possible because the wood recessed form will shrink away from the concrete as it dries out. Jerking forms is harmful; even pulls are strongly recommended to avoid breaking edges.

After use, edges of wood-form panels are sealed, and corners protected.

Concrete Curing

After the concrete has been placed, provisions must be made for curing, one of the most important factors involved in the production of quality

concrete. The chemical process of the hardening of the concrete continues so long as temperatures are favorable and moisture is present to hydrate the cement. The desirable properties of concrete increase with age so long as these favorable conditions are present. The gains in strength of the first week after placing concrete are approximately as great as that during the succeeding three months. No gain is made in the strength after the concrete is dry.

New solids are formed during the curing, filling the spaces in the concrete. One of the purposes of curing is to prevent evaporation of the water essential to hydration. A variety of techniques can be employed to perform the requirements of curing, but in any case, alternate wetting and drying cycles are not advised since such a procedure creates crazing on the surface. Methods of curing include—for flat placements—ponding with dirt dykes built on the stiffened concrete to hold water to maintain curing moisture. A thin membrane seal can be sprayed on the concrete to prevent moisture evaporation. It is frequently advisable to protect this membrane with a one-inch layer of sand placed 24 hours after the application. Covering the area with heavy paper, asphalt impregnated, will prevent undue evaporation and aid in curing.

In curing walls, builders may hang canvas or burlap on them which are kept moist. Forms, left in place, can be sprinkled to keep the moisture rate high; these forms can be loosened to allow the water to reach the concrete surfaces. If the concrete surface dries first, before the whole section is cured, dusting and checking will result. The curing should, normally, cover a five day period.

Heat hastens hardening of concrete; cold retards it. The ideal temperature for curing concrete is between 60 to 80 degrees Fahrenheit. In cold weather, for effective hardening, concrete must be maintained at 50 degrees for five days at least. Mate-

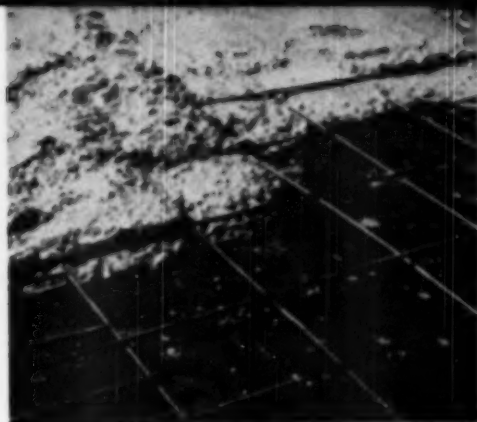
rials can be heated before being placed in the mixer during cold weather work. Although water coming in contact with cement at 175 degrees or more may cause a flash setting, boiling water can be added to aggregates since these aggregates will absorb heat, reducing temperature before the cement is added. Block fireboxes, perforated oil drums, and discarded boilers are some of the inexpensive heating elements that can be used. The concrete itself should not be in excess of 80 degrees Fahrenheit.

The ground on which concrete is placed should not be frozen. Calcium chloride, unless prohibited by specifications, may be used in concrete to accelerate hardening in cold weather, but not to exceed two pounds per sack of cement. This chloride does not materially reduce the freezing point of the concrete. It takes three times as long to cure concrete adequately at 33 degrees as it does at 70 degrees. No gain in strength is made, obviously, when concrete is frozen. Freezing within 24 hours after concrete is placed is certain to result in permanent injury to the concrete.

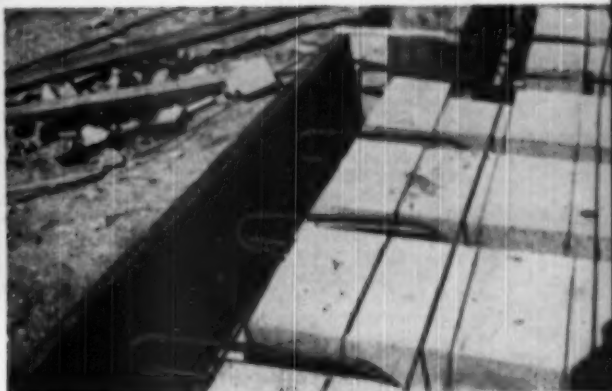
After placing concrete in cold weather, cover it with heavy paper or straw, 10 to 12 inches deep. The sections can be enclosed and heated to accelerate hardening in cold weather, but the concrete will dry out before properly hydrated if heating elements are placed too close to it. In cold weather, forms are left in place longer than otherwise would be necessary. In addition, excessively rapid cooling after artificial heating is harmful to concrete; the temperature should not be allowed to drop more than 20 degrees in 24 hours during the early curing period.

Reinforced Concrete

Concrete is stronger in compression than it is in tension. Steel and concrete have approximately the same coefficients of thermal expansion; therefore, steel reinforcing rods are used in concrete sections to increase their



STEEL reinforcing rods are used to increase tensile strength of concrete. At right, note corrugations on rods bent to increase strength at strategic points



tensile strength, their resistance to stresses of bending and pulling.

Reinforced concrete was first used around 1850 by Joseph Monier in France. M. Monier patented his process in 1857. Other patents were granted in 1877. Early uses in the United States of reinforcing steel, were in the Leland Stanford, Jr., Museum and the 16-story Ingalls Office Building, Cincinnati.

Steel reinforcing rods are also used to increase the compressive strength of columns, for example. Even slabs, not subject to pronounced tensile stresses require reinforcement since, in hot weather, the concrete may expand exercising compressive strength, but in colder weather, it pulls back, contracts, requiring tensile strength to move its own bulk.

To be effective, the rods must be bent or deformed to increase surface areas and to insure that the rods do not slip in the concrete sections of which they are a part.

Rusty rods, scrap iron, and rusty fence wire are ineffective as reinforcement and should never be used for that purpose. Rods used should be free from rust, scale, or other coatings. Heating bars destroys some of their tensile strength and should be avoided. Generally, number 18 annealed wire is used to tie reinforcements within a form.

Rods are placed $\frac{3}{4}$ -inches from the surface of the concrete to be effective. In lintels, beams, etc., put rods on sides which will tend to pull apart. Long beams on supports should be reinforced at top and bottom. Bars are always bent around corners.

When placing concrete, special batches may have to be prepared to assure that all areas around the rods are filled with concrete. Tamping, hitting forms with rubber or wood mallets, and vibrating help place the concrete around reinforcements. After rods are in place, they should not be used as runway supports while placing concrete.

Concrete with Special Cements

Concrete can be made with varying characteristics to meet a variety of structural and ornamental demands. It can be manufactured in weights ranging from 30 to 250 pounds per cubic foot and in varying degrees of permeability from densities porous enough for filter purposes to waterproof consistencies. The average regularly used concrete weighs about 150 pounds per cubic foot.

For jobs that demand high early concrete the cement industry has perfected high early cements that give higher strengths than normal portland cement with or without accelerators at ages up to one year. Strengths of

these concretes reach peaks at one to three days permitting early utilization of the sections.

A high early concrete can be made with normal cement by reducing the quantity of water used. For example, a mix with $4\frac{1}{2}$ gallons of water per sack cures twice as fast as a mix of seven gallons per sack of cement. Dissolving flake calcium chloride in mixing water hastens the setting action of the paste. The quantity used should not exceed two pounds per sack of cement. Smaller quantities should be used at temperatures in excess of 90 degrees Fahrenheit. Since temperature is a factor in the hardening process, heating mixing water is a help. Below 70 degrees, high early strength is not likely to be obtained.

Air Entrained Concrete

Air entrained concrete can contain as much as $4\frac{1}{2}$ per cent air. For given cement factors, the volume of concrete is increased by this volume of entrained air. The air is captured by using cement containing a small amount of certain organic materials that entrap millions of microscopic air bubbles in the concrete, increasing its plasticity and resistance to frost action. The use of this type of concrete is particularly advisable in regions with cycles of freezing and thawing.

The design of the concrete may be adapted for predetermined characteristics, when using air-entraining agents. If a given strength is to be preserved, the amount of cement per cubic yard is increased as compared with normal cement. For a given water-cement ratio, the amount of coarse aggregate is increased, reducing slightly the amount of cement per cubic yard. For a given cement factor, the water per sack is reduced as is the change in rich mixes to $\frac{1}{4}$ gallon of

Type of aggregate	Wt. of aggregate per cu. ft. (lb.)	Wt. per cu. ft. of concrete using aggregate (lb.)
Burned clay or shale	40-60	100-120
Expanded slag	40-60	90-100
Cinders	40-50	110-115
	(plus sand)	
Pumice	30-60	60-60
Diatomite	28-40	55-70
Perlite	6-16	40-60
Vermiculite	6-10	25-90

amount of sand, from practically no water and five pounds of sand per sack for lean mixes. A slump less than that expected of regular concrete is satisfactory.

Special Aggregates for Concrete

Special aggregates are popularly available to provide concrete of a variety of attributes. These include pumice, diatomite, perlite, vermiculite, cinders, shale, slag, and field stones, for example. Pumice is composed of siliceous minerals of volcanic origin, light in weight; it produces a concrete of high insulating and sound absorbing characteristics. Diatomite is composed of siliceous shells of microscopic aquatic plants called diatoms. Perlite is a natural volcanic glass, appearing solid but actually permeated with tiny pockets of gas. When exposed to flame, the pockets expand greatly. Vermiculite is composed of certain micas, dried, ground, and subjected to about 1800 degrees heat for four to eight seconds. Both anthracite and bituminous coal furnish cinders suitable for use in concrete. Since these cinders must be well-graded, domestic ash and cinders are seldom suitable for this use. Shale is a cellular inert material. Blast furnace slag has been used in concrete for over 40 years, usually as a substitute for coarse aggregate.

Lightweight concrete is also formed by using admixtures (see air-entrained concrete, above). When these admixtures are used, allowance must be made for the increase in the concrete volume after pouring. The lightweight aggregates are generally rough and more irregular in shape than other aggregates, although they should be as well-graded as is possible. These aggregates should also be wetted before using because of their high absorptive capacities.

The Housing and Home Finance Agency has made a thorough study of the use of lightweight aggregates. Its conclusions include the following points: the high cost generally associated with lightweight aggregate concrete, due to the high cement content generally required to obtain workability, may be offset to a large degree by the use of air-entraining agents and, therefore, less cement. With the air-entraining agents, in a given volume, less paste is required to coat completely all particles.

The thermal conductivities of lightweight aggregate concretes are generally lower than 4 B.T.U. per square foot per hour per degree Fahrenheit per inch of thickness, with many of the low density concretes having a K value in the range of one to two. There

is a definite relationship between the oven-dry weight of lightweight aggregate concrete and its thermal conductivity. In any event, special thought must be given to the use of lightweight aggregates for concrete. Shrinkage with these aggregates is usually higher than with other aggregates. Before choosing an aggregate, the conditions should be analyzed, the specific demands determined, expert advice received, and the aggregate that will supply the requirements with economy chosen.

Cyclopean Concrete

Cyclopean concrete is the term used to designate concrete made with large field stones. The use of such stones depends on the cost of the labor involved. They must, of course, be clean, should not lie near each other in the mass, and must be completely covered with the paste.

Mill sawdust has been used as an aggregate for concrete sections, particularly for flooring but this has been an experimental undertaking. The strength is seriously reduced, being only 10 to 20 per cent of normal sand and gravel concrete. The value is doubtful if exposed to weather, moisture, or freezing. Such concrete has an unpredictable strength, and lean mixes with sawdust will burn. Norway pine, jack pine, and commercial sawdusts have been used in the experiments. Soil-cement, i.e., cement mixed with common earth, has proved itself satisfactory for isolated road surfaces. Other experiments are now in progress, using it in light construction work.

Watertight Concrete

Watertight concrete requires only adequate foresight and supervision. Of course, the units to be made of concrete must be of suitable design to resist water pressure, and they must be surrounded with proper drainage facilities. These steps should be observed:

First, the aggregate must be sound and of a low porosity, suitably graded. A limited amount of mixing water helps to insure watertightness because an excess of water remains uncombined in the cement paste. The spaces it occupies will be void after it evaporates. Nevertheless, a plastic, workable mix is essential to forestall honeycombing. Leakage in concrete is usually through the paste rather than through the aggregate. This leakage can be prevented by having sufficient paste to coat all aggregates and to fill all holes. Not more than six gallons of water should be used per sack of cement. Thorough spading aids in

insuring a uniform consistency. When pouring in deep layers where water in the mix tends to accumulate on the top of the cured concrete, it is sometimes necessary to use dryer batches near the top of the section to absorb the excess water.

The moist cure should extend from at least five to seven days at proper temperatures. Tanks designed to hold water should not be filled until the concrete is thoroughly cured.

Generally, however, leakage in concrete structures occurs through construction joints rather than through walls; it is obvious that these joints must be designed to resist moisture.

Waterproofing powder and water-proofed cement are now popularly marketed. These powders coat the particles of the concrete with a water repellent. Once dry, these water-proofed cement products cannot be wetted for continued curing; the curing must be supervised from the initial placement, but the result is water-proof concrete.

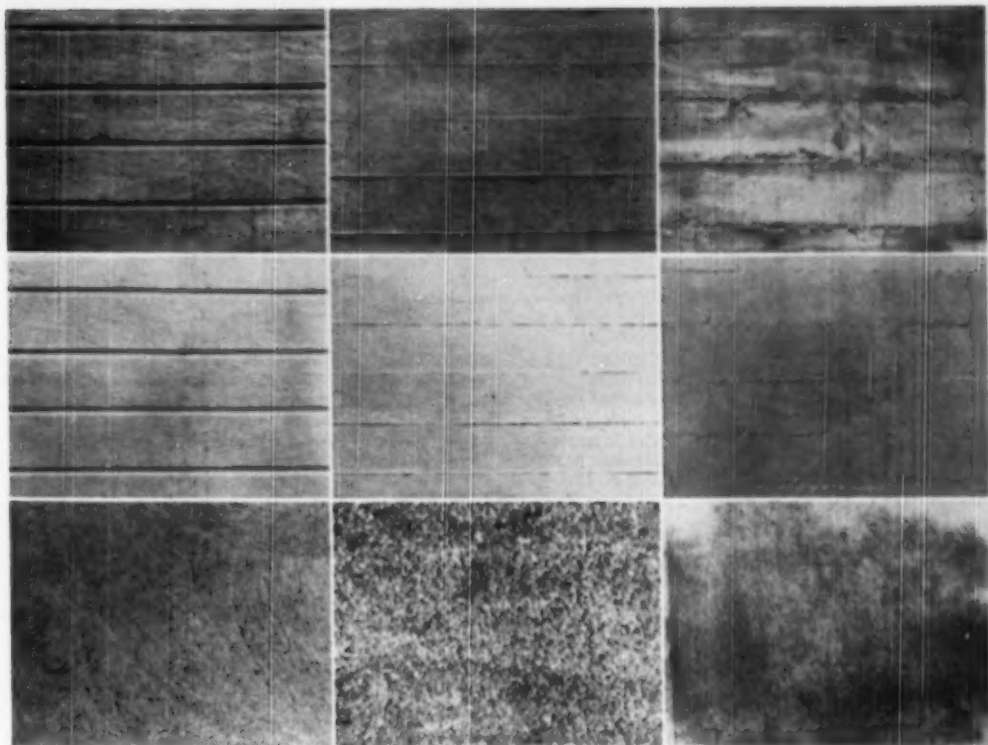
Concrete Finishes

How one finishes concrete is determined by the texture desired in the finished product. Troweling is a popular method of finishing slabs, but surfaces will be dusty and have hair checks if troweling is done too soon or too frequently.

The time element is very important in the final finishing. The concrete should be allowed to stand until it is quite stiff but still workable. The trowel compacts and produces a dense surface. When mixtures are stiff before troweling, the fine materials are not drawn to the surface by the troweling action.

Wood floating provides a good, rough surface, particularly adaptable for traffic surfaces. Mechanical floaters will handle stiff mixes better than hand methods and will produce a better wearing surface. A canvas wood, or rubber belt, six to 12 inches wide is occasionally used for finishing surfaces. The belt is drawn back and forth across the surface in strokes of 12 inches, finishing in strokes of one inch. When surfaces are to be broomed, the brooming is most effective when it is transverse to the direction of traffic. Surface water should not be removed by sprinkling the surface with dry cement or sand because this practice will cause checking. This water is simply brushed off with a broom or belt.

A variety of vertical surfaces can be achieved by control of the forms, by using colored or selected aggregates or colored cement, by applying a dash coat of stucco, or by tooling the surfaces after the forms have been re-



A VARIETY of concrete surface textures are produced by different form constructions, as shown in the top row of photographs above. The middle row is of these same surfaces with portland cement paint. Concrete can be tooled, also—broomed, mechanically scoured with an electrical saw and corborandum wheel, or sand blasted as shown in the bottom row of photographs.

moved. Molds, wood strips, formed metal, and general form design and materials produce varying effects in the concrete surface.

A rubbed finish is obtained by using a number 20 carborundum stone when the concrete is green. The lather created is removed by brushing. Some weeks later, the surface is again rubbed with a number 24 carborundum and water, and the excess lather is again removed. This excess mortar will form blotches if left on the concrete.

A rubbed surface is also produced by scrubbing green concrete with wire brushes, making free use of water. If the surface is too hard to be scrubbed, muriatic acid in a weak solution, immediately rinsed serves as an aid. In surface treatments of this sort that are likely to chip corners, it is suggested that fillets of rounded molding be used within the forms so that the unit has no sharp corners.

After forms have been removed, bulges, projections, fins, and other unwanted ridges can be chipped, rubbed, and/or ground. Honeycombed sections, chipped out to solid con-

crete, should be cut out with straight edges, keyed in, to wedge patches in place. Such holes should be filled in $\frac{1}{4}$ -inch layers, screeded with a screed with slims to project the patch. This convex shape compensates for shrinkage. After the patch has been allowed to stiffen, this projection is troweled off flush. Patches should not be over-floated because this makes the water come to the surface and weakens the patch. When ready to apply concrete to the area to be patched, a peripheral area within six inches of the hole should be dampened to lessen absorption of water from the fresh concrete. A good mixture for patching consists of equal parts of sand and cement with enough water to permit workability. The use of white portland cement in the patch mixture is recommended since the result will then more likely blend, in color, with the regular concrete.

Efflorescence

Efflorescence, caused by the passage of water carrying soluble substance to the surface, usually resulting in whitish discolorations, can be removed

with dilute solutions of muriatic acid (one part acid to 10 parts of water) applied to wet (dampened) concrete. This acid solution is not to be left on the concrete for more than four minutes. This substance can also be removed with equal parts of paraffin oil and benzine vigorously rubbed in when the concrete is dry. This also improves the wearing qualities of the concrete and helps preserve color.

Colored Cement

Colored aggregates can be used to produce colored concrete. Such aggregates, manufactured specifically for this purpose, are made in two varieties. The ceramic material produces soft colors. The vitreous product creates bright colors in the finished product. For economic reasons, these special aggregates are usually used for only a thin surface layer. This outer layer must be brushed to remove the outer coating of cement paste; brushing must be used since rubbing does not get into crevices to remove the paste. When this technique is used for coloring, it is customary to use a "jump" grading of the aggregate in



the finish layer, with a larger size dominating.

Another method of coloring concrete is the dusted-on-color method in which a dry mixture of one part cement, 1-1½ parts of sand, and the proper amount of pigment is applied uniformly at not less than 125 pounds per 100 square feet of area. The sand used must be at least of a grading of which 80 per cent passes a number eight sieve, and not more than three per cent passes a number 30 sieve. A dusted-on color mixture is worked into the slab, but not after the slab becomes wet. Steel troweling should be done in one direction, using as few strokes as possible.

Special pigments are available to the builder for coloring concrete, both as natural minerals and as manufactured products. The general requirements are the same for both—that they be durable under sun and weather, that their color be intense, and that they do not excite chemical reactions in the concrete. The degree of color is determined by the proportion of pigment to cement, not by the proportion to the cubic feet of concrete. Up to nine pounds of coloring per sack of cement can be used safely. It is best to use white portland cement with coloring pigments. Each user makes samples to determine the proper mix to use. The finer pigments produce better colors. The cement and pigment are mixed first in careful proportions in a color mixer, or by passing through a screen together for best results before water is added. It is reiterated that the color is determined by the proportion of pigment to cement, not by the proportion of pigment to the cubic feet of mortar or concrete. A topping for colored concrete is frequently used since a solid colored slab is not economical or necessary, except for light tints. The colored topping is either placed on the base shortly after the base stiffens, or it is placed after the base has hardened, in which case it is necessary to clean the base and to cover it with a cement grout. The manufacturers of portland cement also produce a selected white portland cement, which, when used in garage, basement, and factory floors, etc., has 61 per cent increase in reflection

AT LEFT, top, rubbing off fin on concrete wall with carborundum stone. **Middle,** finishing concrete slab with mechanical float. **Bottom,** dusting color on top of new sidewalk. Colored cement will be troweled into surface

characteristics over regular gray portland cement.

Iron concentrations in mixing water will discolor concrete, therefore, clean water is essential to good concrete coloring. The mixing process should cover not less than two minutes time when all materials are in. After the concrete is poured, stainless curing paper or other stainless covering is essential to obviate the possibility of staining the concrete.

Colored concrete, in floor slabs, for example, can be cleaned, and made impervious with liquid soap that is allowed to stand on the slab over night. Floor waxing once a month is an aid in maintaining the color characteristics of the floor, etc.

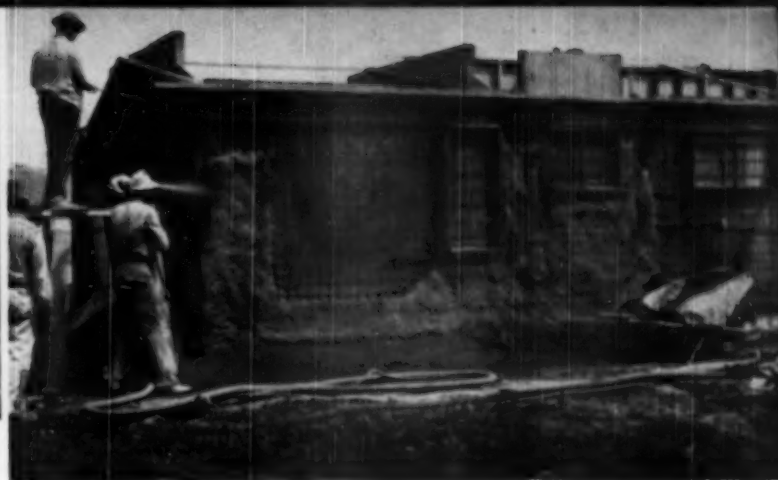
A special stain that is applied to the concrete surface can also be used to achieve a variety of colors. This stain, for use on old or new concrete surfaces, reacts with the cement particles becoming an integral part of the concrete. This stain can not be used on concrete containing waterproofings, integral hardeners, or other similar surface treatments, or on concrete not completely cured. Wax and grease are removed before application with a solution of tri-sodium phosphate and paint is removed with a concentrated lye solution.

If care is used in the selection of aggregates, certain predetermined surface effects can be achieved. White sand, marble chips, granite screenings, crushed felspar, mica-spar, crushed slag, and garnet sand are some of the materials that vary the texture of concrete. When these, and similar aggregates are used, the surface must be rinsed or washed with acid, which is also immediately rinsed off, to remove surface films. In the construction of walls, a special granolithic surface is made with a facing material composed of one part cement, 1½ part fine aggregate, 2½ parts coarse aggregate made up of pebbles, crushed granite, or other stone. This facing material is placed in a one-inch layer on the exposed surface of the concrete by pouring it against the face of the form with a special metal or wood mold which holds the facing in place while placing the rest of the regular concrete. These molds are removed before setting occurs.

Concrete can also be sandblasted to achieve the usual sandblasted effect. The tooled and brush-hammered surface has a sparkle because this technique cuts the aggregates. This method, however, cannot be worked around corners since it chips them. Interesting and attractive surfaces are produced by mechanically scoring with an electric saw and carborundum wheel.



GUN for applying concrete is held at right angles to surface, as shown in top photos. Rebound collected at base is uncoated sand



Pneumatically Applied Concrete

CONCRETE can successfully be shot into place with pneumatic pressure. Graded aggregate, less than $\frac{1}{4}$ -inch in size and with the normal five per cent moisture content to pick up the cement, is mixed with the portland cement and placed in the pumping machine from which it is fed into the hose under pressure of approximately 35 to 55 pounds per square inch. Water, under 15 pounds pressure per square inch in excess of the dry mix pressure, is added at the nozzle. A $3\frac{1}{2}$ S mixer will keep up with most machines with which from 150 to 300 feet of hose can be used to apply the concrete.

Less shrinkage can be expected of this concrete since less water is used, generally around $3\frac{1}{2}$ gallons per sack, and because the impact force expels superfluous moisture, air, and uncoated sand. Approximately 20 per cent of the aggregate rebounds and collects at the base of the work. To attain strength of 8,000 to 10,000 pounds per square inch the aggregates are selected and the concrete cured as one would do for conventionally placed concrete.

This concrete can be shot against any appropriate sturdy surface, including earth, to a width of several inches without slumping. When shot

against concrete in place, the bond formed is frequently stronger than that of the original surface—if the surface is clean and not covered with paint or similar coating.

The material is shot from the nozzle held at right angles, two to six feet from the face being covered. It is then screened off and, if desired, troweled, or finished with a $\frac{1}{4}$ -inch flash coat.

This method can be used for building walls, swimming pools, for repairing, for fireproofing, for waterproofing, and for protecting steel. Blocks laid up without mortar and without reinforcing shot with $\frac{1}{4}$ -inches of concrete pneumatically applied have developed three times the tensile strength of conventionally laid blocks. Further these walls do not develop mortar joint shrinkage cracks.

This pneumatic application can be used for waterproofing against a hydrostatic head. The machine can also be used for applying plaster,

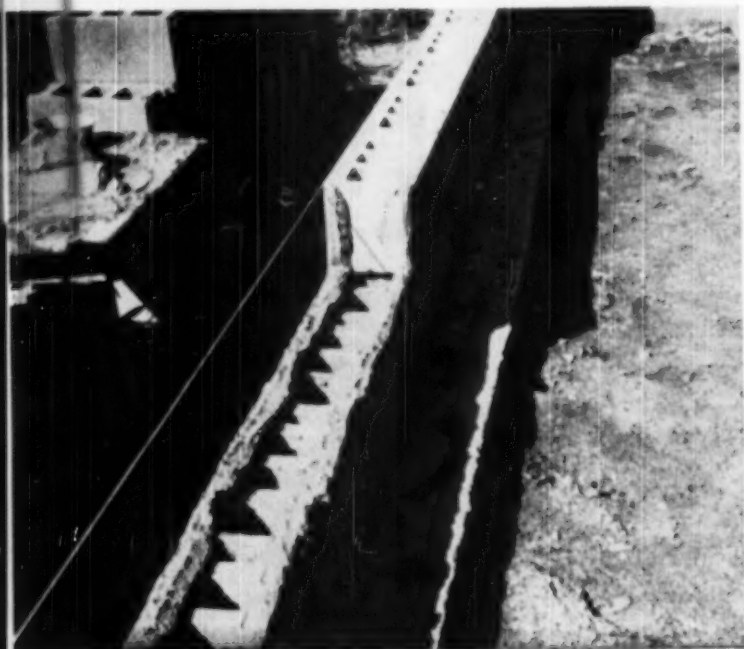


HOUSES in right column were constructed of pneumatically applied concrete. In lower right photo, workman is preparing walls for pneumatic application. Above are shown wall sections that are readily repaired by shooting concrete against the cleaned surface

A Report On Cement



Masonry



A Report On Cement

THE TERM "concrete masonry" is applied to block, brick, and tile building units molded from concrete and laid by masons. Over 6,100 establishments manufacture concrete masonry products with a value of \$329,734,000 (in 1947), for concrete masonry units lead in volume of masonry construction.

The units are made of dry-mixed aggregate and cement, coloring, and water, all compacted in machines some of which are capable of producing as many as 10,000 units per day. Their uses include load-bearing and non-load-bearing functions such as in piers, partitions, veneers, party walls, backup walls, fireproofing, chimneys, floor filler block, and sills and lintels. To meet these various capacities, concrete masonry units are made in a limitless number of shapes. Following is a list of some of the masonry unit forms now being made by American producers, each of which is manufactured in a multitude of dimensions:

Slabs	Corner block
Sash block	Pilaster block
Cap block	Sill block
Header block	Steel sash block
Coping block	Beam lintel block
Chimney block	Catch basin block
Floor filler block	Wall block
Bull nose block	Tile
Siding block	Brick
Grade block	Roof tile
Ashlar block	Drain tile

Face textures for units can be formed by the design of the mold, by brushing the units when removed from the molds, or by fine water spraying. Brick, block, and tile are frequently sprayed with special paints as they are ejected from the machine to produce colored units. Coloring can also be added to the ingredients to manufacture solid-colored building block and brick. Other decorative effects are achieved when laying the units by using irregular or random patterns and unconventional sizes.

Other surface textures are made by varying the aggregates used to produce fine, close finishes and open textures.

Although these units are made in numerous sizes, their dimensions are usually modularly co-ordinated to simplify building problems. Actual dimensions are scant $\frac{3}{4}$ or $\frac{5}{8}$ inches to allow for mortar joints. Therefore the standard 8 by 8 by 16 inch unit actually measures 7- $\frac{3}{4}$ by 7- $\frac{3}{4}$ by 15- $\frac{3}{4}$ inches. Modular halves, quarters, corners, and other special blocks are also made with these scant dimensions. The standard 8 by 8 by 16 inch unit occupies the space of 12 brick. Its core air spaces take up 45 to 55 per cent of the unit's volume.

Concrete masonry units are eco-

nomic; that is the more porous, lighter units have a smaller K factor. A relation exists between the porosity and the sound absorption qualities. Masonry units of porous aggregates are efficient sound absorbers, but this quality is impinged upon if the surfaces are painted, the reduction being in proportion to the extent that pores are closed. The 8-inch lightweight block wall has the same heat transmission co-efficient as an 8-inch hollow lightweight block wall.

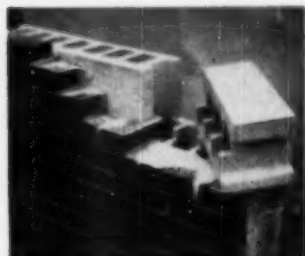
The general principles that govern the production of concrete also apply to the manufacture of concrete ma-

sonry units. In the case of the 8-inch in size, the coarse aggregates within this range produce stronger units. The generally approved fineness modulus is 3.70 for this aggregate graded in this manner:

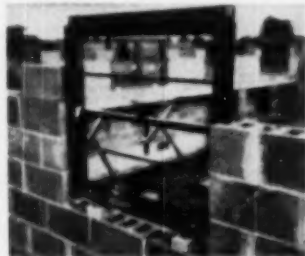
Sieve size	Per cent retained
4	25
8	40
14	55
28	70
48	85
100	95

Fineness modulus 3.70

The unique characteristics of con-



SPECIAL back-up blocks, keyed to receive brick heater courses, insure knit walls



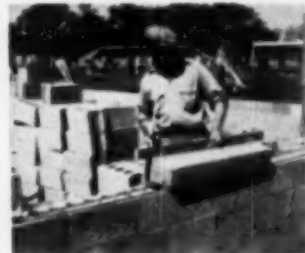
MODULAR cask block for wood or steel windows simplify work at openings



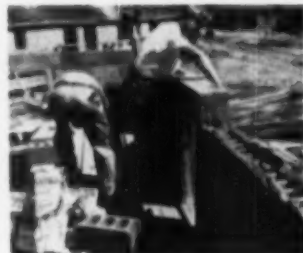
SINCE masonry units are easily cut, they are adaptable for use with most frames



FLOOR filler block permit building lighter concrete floors with no strength loss



PRE-CAST sill block speed masonry work and obviate need for making sills on job



CAST lintels such as these of lightweight aggregate also promote job efficiency

nomical building material because they are relatively large, requiring less mortar for placement, and because they are generally true to size. Only a maximum adjustment of four inches is required to adjust dimensions of building plans for the use of these masonry units that are fireproof and sound absorbing.

Masonry units can be made to meet 2-, 3-, and 4-hour fire retardant ratings of testing laboratories. Tests conducted by a state university have revealed that these units are frequently more sound absorbent than hard plasters. Porous concrete units have ratings as high as 50 per cent while heavyweight units absorb 21 to 27 per cent of the sound.

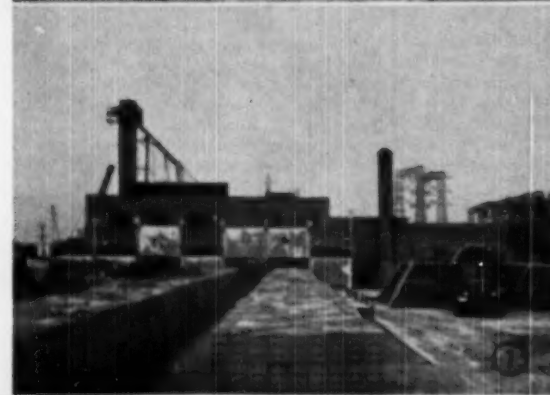
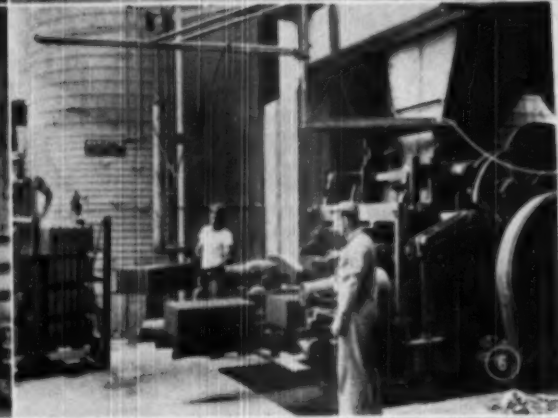
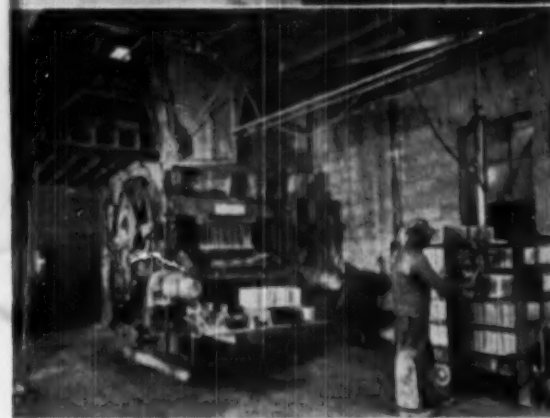
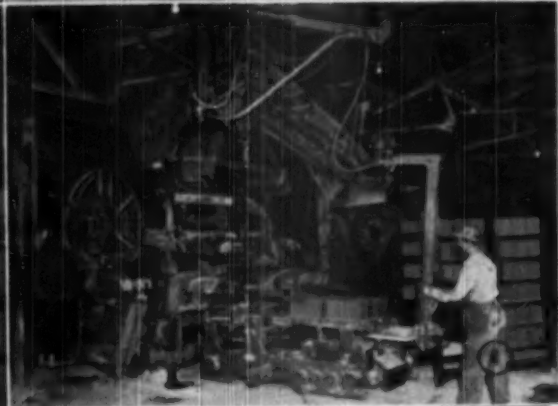
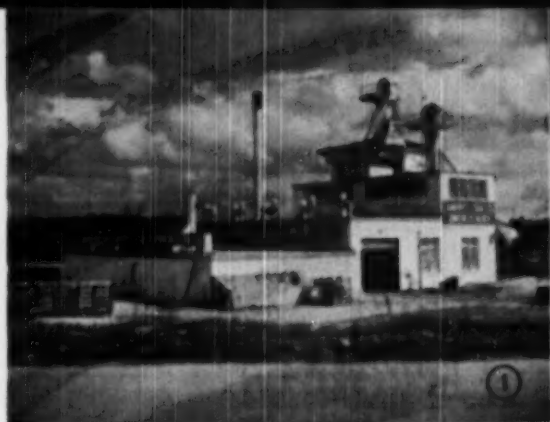
The conductivity of concrete masonry units is closely related to den-

sity; that is the more porous, lighter units have a smaller K factor. A relation exists between the porosity and the sound absorption qualities. Masonry units of porous aggregates are efficient sound absorbers, but this quality is impinged upon if the surfaces are painted, the reduction being in proportion to the extent that pores are closed. The 8-inch lightweight block wall has the same heat transmission co-efficient as an 8-inch hollow lightweight block wall.

The general principles that govern the production of concrete also apply to the manufacture of concrete masonry units. In the case of the 8-inch in size, the coarse aggregates within this range produce stronger units. The generally approved fineness modulus is 3.70 for this aggregate graded in this manner:

The unique characteristics of concrete masonry units are easily cut, they are adaptable for use with most frames

crete masonry units and the requirement that they have a compressive strength of 700 to 1000 pounds per square inch (blocks must be able to carry a load of 45 tons) make it essential that proportioning of the ingredients be carefully supervised. One difficulty is encountered in controlling water volume since the aggregate's water content can vary from one to eight per cent. Water in the stored aggregate tends to collect at the bottom of bins so that beginning runs may be ruined by this moisture if it is not accounted for. As was explained in the concrete section, water also tends to "bulk" aggregates, a particular handicap since the materials are usually proportioned by volume. The manufacturer generally uses as much water as is possible without



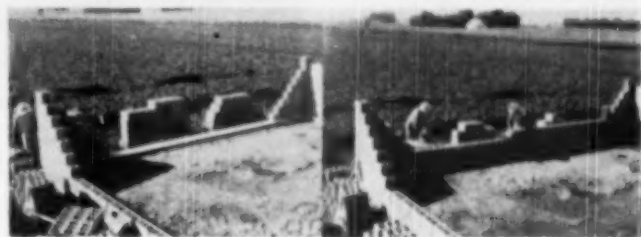
A Report On Cement

having a slump in the product. It has been found that longer mixing times make it possible to use leaner mixes. These are the customary analytical steps in the manufacturing routine: analyze the available aggregate, determine moisture content, proportion materials by weight, use materials as coarse as possible, use as much water as is possible without slump, test product frequently.

The aggregates and cement are dry-mixed before water is added. Most of the units now being produced are made with air entraining cement because the plasticity of the product is thereby increased. These units are "rubbery" and less likely to break



STRIKING joints serves two purposes: Accentuating horizontal lines produces pleasing architectural effects. Sealing the joint with a tool helps prevent leakage



IN LAYING up concrete block walls, the corners are completed first, as shown left above. These corners then serve as guides as the intervening wall sections are completed

**Materials Required
for 100 Sq.Ft. of Concrete Masonry Wall**

	7 $\frac{3}{4}$ -in. course height	5 $\frac{1}{4}$ -in. course height	3 $\frac{1}{2}$ -in. course height
Wall thickness, in.	4 or 8	4 or 8	4 or 8
Number units (block)	110	220	300
Mortar, cu.ft.	3 $\frac{3}{4}$	5	6

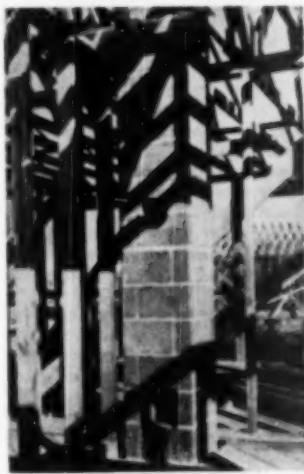
**Materials Required
for 100 Cu.Ft. of Mortar**

Type of mortar	Sacks of cement	Lime, cu.ft.	Sand (damp- loose), cu.yd.
1 vol. cement to 3 vol. sand	32	1.5	3.5
1 vol. cement to 3 vol. sand plus $\frac{1}{4}$ vol. lime	29	6.7	3.5
1 vol. cement to 1 vol. lime to 6 vol. sand	16	16	3.6

when green. This cement makes it possible to use more water in a mix that more nearly approaches the ideal for maximum strength. Two other factors—the lower water absorption characteristic of the finished product and its slight increase in compressive strength—have prompted the use of air entraining cement, especially so since no additional expense is incurred and there is no difficulty in handling the product on standard block- and brick-making machines.

In production, raw materials, aggregate, cement, coloring (if appro-

AT LEFT. 1—Best layout of Atlanta block plant. Curing kilns at rear of building. 2—Twin brick-making machine installation of Brickcrete Associates, Inc. 3—Self-contained block plant with mixer, ship hoist, and block machine of Fleming Manufacturing Company. 4, 5—Vibrapac plain pallet block-making machine, Boscor Manufacturing Co., with overhead crane. 6—Silo stacks are made on this Vibrapac machine. 7—Kilns speed up curing of Dun-brick units at this plant. 8—Blocks are air-cured in this spacious yard



CHIMNEY block, another standard concrete masonry product, are used successfully and approved in many communities



CONCRETE masonry slabs, four inches thick, are being used above, as back-up for veneer. Mason is tooling the joints

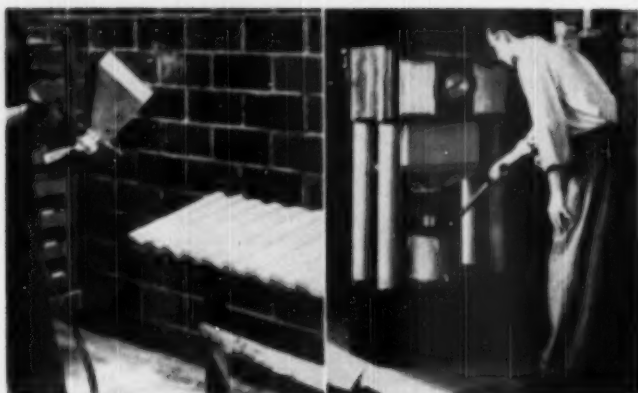
A Report On Cement

private), are placed in the elevator bucket, lifted and discharged into the mixer for dry mixing. Some water is then added before the mixture is discharged through chutes to production machines.

A variety of machines are now on the market, ranging in size from the hand-operated, single unit press with a maximum capacity of 100 to 200 units per day to the massive fully automatic hydro-electrically operated machines which produce 8,000 to 10,000 units per working day, but the basic function—that of compacting the materials—remains principally the same. The machines may achieve this end by tamping semi-wet mixes, by vibrating stiff mixes, or simply by applying pronounced pressure. Greater densities in blocks are generally accompanied by greater strengths. Some of the machines have oscillating cores to tamp horizontally as well as vertically or have pallets mounted in rubber cushions that vibrate unidirectionally to compact materials.

Units are removed from the machines immediately after compaction and frequently then placed in curing kilns. The process of curing in kilns is not a standardized one since it varies with the size and facilities of each curing vat. One system follows these steps: the units are allowed to set for two hours after removal from the machine and then steam-cured for 10 hours at 180 degrees Fahrenheit. The temperature is increased to this height gradually over a four-hour period. The steam-curing is followed by a one-hour soaking period. Units subjected to this routine have passed the 1000 pounds per square inch strength test and have had a moisture content of less than 40 per cent in 24 hours. The one common problem is to keep up the moisture content to continue the process of hydration. When it is necessary to stock pile concrete masonry units it is recommended that they be covered until used.

The strength of masonry sections depends upon the strength of the individual unit, the design of the unit, the regularity of the unit (i.e., irregular joints cause irregular stresses), the strength of the mortar, the bond of the mortar to the unit, the workman-



This supplementary equipment is frequently part of completely equipped concrete masonry plants. The spraying gun at left, part of a Color-Glazer machine used for color-finishing masonry units, is a product of Colorcrete Industries, Inc. The machine at right is designed by the W. E. Dunn Manufacturing Company for testing of concrete products.

ship, and, finally, the thickness of the joint, for the thinner joint is the stronger one.

Certain precautions should be taken to prevent cracks in masonry sections. First, the mason should be assured the units are completely cured before placing them and that the supporting foundations are adequate. Wood lintels cannot be used. Pilasters must be included in the sections to bear concentrated loads. It should be noted that masonry walls expand or contract $\frac{1}{8}$ inches per 100 feet per 100 degrees Fahrenheit change in temperature. Brick must be wetted thoroughly a few hours before using to reduce their absorption of water from the mortar, consequent distortion of the hydration process. The purpose of adding lime to mortar mixtures is to counteract this water absorption by the units since the lime has high water retention properties. Further, lime makes the mortar more plastic and workable. Mortars weaker than a 1:1:6 portland cement-lime mixture should not be used for masonry construction. Proportions are suggested in the table. Cement and sand are mixed dry before adding water to the mortar. Only the minimum amount of mortar required is mixed since partly set mortar should not be used. Colored mortar is made in the same manner as colored concrete.

In laying masonry units, one first places on the base a thick mortar bed with a slight furrow that fills when the unit is pressed into place. Mortar for only a few units at a time is spread on the sections to keep it from drying out. Head joints are filled completely when laying brick, not by spotting on one edge of a brick in place or by slushing but by throwing enough mortar in place to cover the end of the brick. Stretcher courses are closed by

covering the ends of the brick in place and the ends of the brick to be put in place, using enough mortar so that it squeezes out of the joints. In building backup with block, both sides of the block should be laid up with full head joints. The joints are struck concave for best resistance to weather, and nail holes for chalk lines are all filled. Once units are in place, they should not be shifted or realigned since these acts will break the bond. Since the wider bedding produces more strength, the full bed leads to a stronger wall than face shell bedding, or than furrowed bedding although face shell bedding alone is possible with blocks. Further, this face shell bedding leaves an air space within the wall which acts as an insulator. Masonry units may be used for backing up stone as it is used as a brick back-up.

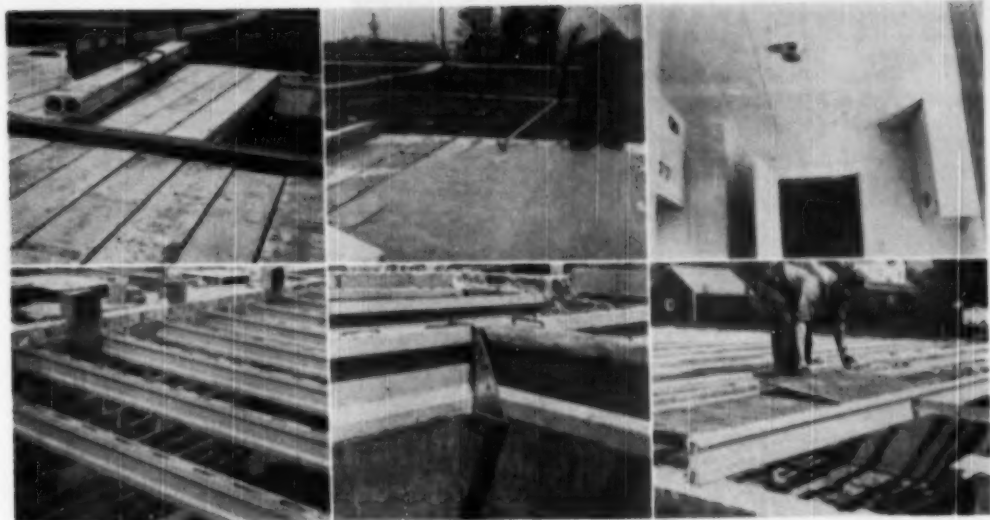
Certain minimum thicknesses and maximum spans are recommended in concrete masonry construction. For example, the maximum distance between lateral supports measured horizontally between cross walls, piers, or buttresses, or vertically between floors or roof slabs should not exceed these figures:

8-inch walls	12 feet
12-inch walls	18 feet
10-inch cavity walls	11 feet, 8 in.

The minimum thicknesses of non-bearing partitions follow:

Thickness exclusive of plaster (Inches)	Maximum unsupported height (Feet)
2	9*
2	12
4	15
6	20
8	25

*Not over six feet in length.



Structural Uses

SOILS have varying bearing strengths that must be considered in designing footings. For example, while gravel is capable of holding a weight of six tons per square foot and dry clay will hold four tons per square foot without distortion, soft clay should not be loaded in excess of one ton per square foot of bearing surface. Consequently, the sizes of footings vary with these soil conditions, although the general principle is to make the concrete footing one-half as thick as it is wide, i.e., about 16 inches wide for $1\frac{1}{2}$ story buildings and 18-24 inches wide for two-story buildings.

Other essential characteristics of a good footing are its square surfaces, the cleanliness of the forms in which it is placed, and its position below the frost line.

Interior wall footings are usually the same size as exterior wall footings, or larger if the interior footings bear a post or chimney. In these instances, the post footing should be $2\frac{1}{2}$ or 3 feet square, 12 inches thick, and if supporting a chimney, project six inches beyond the base of the chimney on all sides. Larger buildings such as barns and garages should have footings 24 to 30 inches wide and about 12

inches deep. Where soft clay, muck, or quicksand is encountered, the width of the footing should be doubled and surrounded by drain tile. Post footings in these larger buildings should be of a proportionate size, that is, they should be $2\frac{1}{2}$ or 3 feet square and 12 to 15 inches thick. Adequate footings will protect the house from the unfortunate consequence of cracked chimneys and walls.

Walls

Monolithic concrete foundation walls eight inches thick are satisfactory for one and $1\frac{1}{2}$ story houses, but for two-story buildings, a 10-inch wall should be used. When concrete masonry units are used for the foundation wall they should be eight- or 10-inch units for one and $1\frac{1}{2}$ story buildings and 12-inch units for two-story buildings. A four-inch concrete or masonry wall is adequate when it is non-load-bearing.

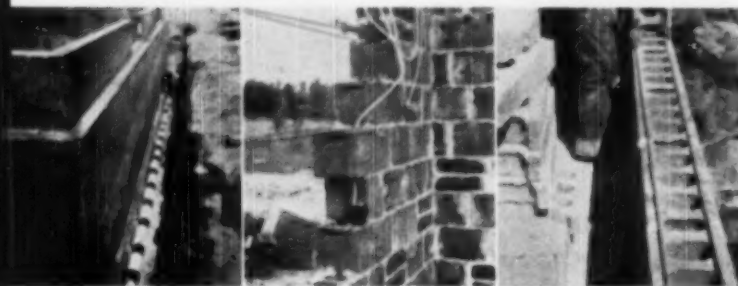
Concrete walls for light construction can be built in four conventional methods, excluding precasting sections, all of which include reinforcing with both horizontal and vertical steel rods. The four methods are: solid walls with insulation on interior surface; ribbed walls with insulation

attached to ribs; cored walls with insulation in the core or on the interior surface, and hollow double walls with an air space or space filled with insulation.

Concrete masonry units are also adapted to at least four methods of wall construction such as hollow double walls, plain unit walls, back-up for brick or stone, or as masonry walls reinforced with concrete collar beams at roof and floor levels and with spaced vertical cores filled with concrete and steel rods. Especially in courses over and under openings in masonry construction, $\frac{1}{4}$ -inch rods are used horizontally, being placed in and becoming an integral part of the mortar bed. When used in this manner, the rods should overlap 12 to 15 inches at joints and should be bent around corners. The hollow walls are generally constructed of two parallel rows of masonry units, 4 by 8 by 16



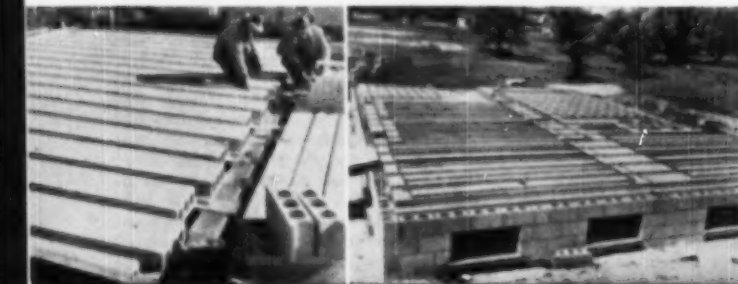
FILLING block with granular insulation, building hollow double walls, and applying furring strips for interior finish are three ways of supplementing masonry insulation



BOTH poured concrete and masonry units make strong walls. Pencil rods are used in masonry joints for masonry walls that need extra strength. These rods knit sections around openings, or form collar beams when used in the masonry courses



TELESCOPIC forms with jacks to facilitate installation and removal simplify the construction of floors with masonry floor filler block and eliminate need for form lumber. Blocks are aligned on spaced forms, preferably with staggered joints, after which reinforcing rods and radiant heating coils are placed before covering with concrete



A Report On Cement

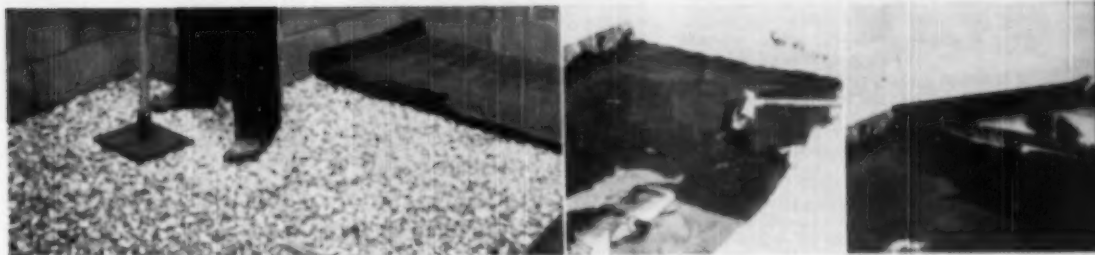
inches, tied together with patterned and welded rods, square wire ties, or conventional galvanized ties.

Openings in monolithic concrete construction are formed integrally with the wall section when the concrete is placed by using plank frames or bucks as the forming so that the sills and lintels are an integral part of the wall, but in masonry unit construction, it is necessary either to use precast sills and lintels or to fabricate them in place by building forms and placing concrete in them. Precast lintels should have at least a $\frac{3}{4}$ -inch bearing surface at each end. Forms for openings must be designed to furnish the concrete with sharp edges. Windows themselves are usually set after the forms are stripped, but flush sills are cast with the spandrel; projecting sills are best cast after the spandrel is hardened since this method eliminates the need for special form construction. It is necessary to concentrate the use of reinforcement around openings.

Retaining walls have unique characteristics in that they must meet a horizontal or diagonal thrust. Embankment walls of units should have the cores filled with concrete with rods inserted and be further braced with pilasters or other anchorage. The gravity type wall utilizes its weight as a retainer, does not especially need reinforcement, and is usually about one-half as wide at the base as it is high, with a minimum of a six-inch top width.

Insulation

Heat losses through concrete or masonry unit walls are controlled by the initial design, but it should be noted that, in the typical residence, the heat leakage through walls constitutes only about 20 per cent of the total heat loss. There is very small difference in heat loss between frame and concrete masonry walls if both walls have the same interior treatment. Filling cores of regular block with granular fill reduces heat loss 50 per cent, a reduction that can be further extended with the use of lightweight aggregate units. The Housing and Home Finance Agency has stated in its brochure on lightweight aggregates that "The



A SIX to 12-inch fill of coarse aggregate is a prerequisite to insuring that a basement will be watertight. This is tamped and covered with two layers of asphalt felt—joints and surface of which are sealed. A one-inch barrier is then installed at edges

thermal conductivities of lightweight aggregate concretes are generally lower than four B.T.U. per square foot per hour per degree Fahrenheit per inch of thickness, with many of the low density concretes having a K factor in the range of 1 to 2. Insulated walls include the double-row hollow core masonry unit construction with or without a granular fill, lightweight block with granular fill, cast in place concrete walls with a one inch center of rigid insulation board, and cast concrete double walls with cores filled or not filled with granular insulation materials. The malleability of the lightweight aggregate masonry units makes it possible to nail furring strips directly to them. In order to protect insulation from excessive moisture, it is advised that both the inside and outside of masonry walls be painted. New walls should age four weeks before painting.

Waterproofing

One of the first considerations in providing for a watertight basement is the use of four or five inch drain tile placed just outside of the footing, sloping one inch in 25 feet, and cov-

ered with 12 to 18 inches of crushed rock or similar material. Masonry foundations below grade are covered with two coats of portland cement plaster each $\frac{1}{2}$ -inch-thick, that extend over the footing edge, of the same mixture as the mortar. The plaster is then coated with asphalt. For cast in place walls, the hot asphalt coating is sufficient. Backfill around the foundations should be delayed until the basement floor is in place to insure that rain water will drain off. Then it is filled and sloped to drain water away from the wall such as the waste from down spouts.

Above grade, masonry walls are waterproofed with two coats of portland cement paint, a seal coat and finish coat, applied with a scrub brush only after the wall sections have aged at least four weeks. The paint is cured as is concrete, kept damp with a fine water spray for 48 hours after the last coat has begun to harden.

A transparent, invisible silicon material that is liberally brushed or sprayed on walls is also an effective waterproofing. Much leakage caused by capillary action is stemmed by this silicon material over which oil paint

can be applied. The material is quite satisfactory on heavyweight blocks and also on lightweight blocks that are first covered with cement paint or stucco. Although it can be applied in any temperature, it must be used only on dry walls and those from which efflorescence has been removed.

Sills and plates are attached to walls with $\frac{1}{2}$ by 18-inch bolts placed four inches o.c. and extending, in masonry units, through two courses of blocks and held in that position with metal lath, while being set with mortar or concrete. In poured concrete, the bolts are simply forced into the concrete.

Concrete floors on earth

Although at least two or more approved alternative methods are available to the builder to insure waterproof floors placed on the ground, the initial prerequisite is the same: a fill of aggregate not less than one inch size, six to 12 inches deep, tamped and lined with grout. In one method, this fill is then covered with two layers of 15 pound felt placed at right angles and asphalt-coated and extended four inches up against the bordering walls which are also lined with 1 by 4 inch

A ONE INCH barrier between concrete floors and walls is essential to reduce heat losses. The middle photograph pictures a basement wall coated over footings with coarse fill over tile. Diagram shows waterproofing cross-section



strip of vapor-proof insulation to prevent heat loss. This membrane is covered with a four-inch slab of concrete placed in one continuous operation, wood floated, and cured, and reinforced with not less than 40 pounds of steel per 100 square feet placed 1½ inches from the top surface. In another method, a 1½-inch base course is placed directly on the tamped fill and left to harden, after which it is coated with asphalt saturated felt or waterproof building paper overlapped and sealed at joints with mastic, and finished with a top three-inch layer of concrete. It is also becoming a frequent practice to insulate floors—to minimize heat losses, and to lower condensation rates—with a layer of concrete made with vermiculite or lightweight aggregate four inches thick placed under the top slab.

Suspended floors

Firesafe and rigid concrete floors will take numerous finishes or coverings such as carpeting, tile, linoleum, wood, or colored or painted toppings.



CONCRETE with vermiculite aggregate is used under regular concrete floor at ground levels to provide insulation. Wood sill prevents irregular temperature gradients. Felt checks moisture penetration.

To provide for conventional wood floors, wood sleepers are embedded in the concrete to which the flooring is nailed, but parquet flooring is cemented directly to the concrete with prepared mastic. A pad is used under carpeting. Linoleum and asphalt, rubber and cork tile are also cemented directly to the concrete subfloor. Concrete, tile, ceramic tile, and flagstone are set in a ¾-inch mortar bed placed over a slush coat of grout on rough finished concrete. Joints are slush filled, immediately after which the tiles or other units are cleaned. The base mortar is composed of one part cement to three or four parts sand plus water, whereas the mixture for the joints consists of one part cement and one part sand to which water is added. Concrete floors are quite suitable for

use with radiant heating elements which are placed in the floor.

Solid slab reinforced concrete floors, the thickness of which depends upon the span, should be poured in one operation, leveled and floated, and allowed to moist cure for at least seven days before being subjected to wear. Flat roofs, constructed in a similar manner except that insulated rigid board one-inch-thick and built-up roofing is added, are less likely to develop leaks if parapets are omitted to avoid the roof-wall joint.

The use of precast concrete joists, precast floor units, and floor filler block are three methods of speeding the construction of concrete floors that will not warp, shrink, settle, sag, squeak, or shake.

Precast floor joists, made in eight-, ten- or 12-inch heights, are covered with two inches of concrete (when placed 27 inches on center) or 2½ inches of concrete when placed 27 to 30 inches on center, and embedded ½-inch in this covering slab. The exposed underside of this beam floor makes an attractive beam ceiling.

An outline of the method of construction with these joists would include these points: set precast joists, place bridging between joists, lay sheathing and spreaders and box openings with upper ½-inch of joist exposed, lay waterproof paper on sheathing only, install sleepers, place concrete, and cure concrete for five to seven days before stripping forms.

Precast hollow core floor units, 12 inches, approximately, in width and thicknesses, are simply placed in position and bound with grout that fills spaces between units and furnishes a level surface. A pre-stressed concrete floor can be constructed with these units by using units with grooves at the bottom in which steel rods are placed that are drawn tight against thrust plates. Appropriate for spans up to 26 feet, when this floor is loaded the stress is neutralized by the initial compression.

The concrete block floor joist type of construction has considerably less dead load than that of a solid slab of equal load carrying capacity. Although the total depth of the floor is increased, this has advantages, in addition to those generally associated with concrete floors, such as a reduction of the dead load, improved heat insulation and sound absorption qualities, and the minimum amount of form lumber required. The covering slab is, of course, knitted with intersecting reinforcing rods to increase tensile strength, and the wall-floor joint should be composed of a one-inch border insulation, as in all concrete floors, to save heat and to reduce lat-

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eral temperature gradients across the floor. The steps in this construction are elementary: After exterior supporting walls have been built to the proper height, forms are constructed to carry the carefully aligned filler block, reinforcing rods are placed, the continuous border installation is installed, the concrete is placed and finished, the forms are removed after the concrete has cured for seven days. The six-inch block is used for spans up to 15 feet, and the eight-inch block is used for spans up to 20 feet. The concrete, 2½ inches in depth, and the blocks should have a compressive strength of 2500 pounds per square inch at 28 days; staggering the points of blocks gives additional strength to the floor. The peripheral block rows should not be closer than six inches to the face of the supporting members or bearing walls which should, in turn, have intermediate support if they extend two stories in height. Spans over 15 feet should also have intermediate support.

Special telescopic forms have been developed including a built-in ½-inch camber at 16 feet extension for use with these filler block to provide horizontal shoring. These telescopic shores, perfected in Great Britain, are adjustable from 10 to 16 feet.

Before painting any concrete floor, its surface should be neutralized with a solution of zinc sulfate.

Other uses

Chimney caps, outdoor fireplaces, bird baths, benches, playgrounds, pools, cast floor tile, stairways and steps, and cast stone are some of the many other products that utilize cement as their basic ingredient, but the fundamentals of hydration are essentially the same. In constructing driveways and sidewalks the center should have a crown or a valley for drainage and the finish is usually more appropriately wood floated.

Cast stone, art marble, and cast copings and parapets are other cement products that serve distinct architectural functions. Art marble and cast stone are made with relatively large chips of crushed marble.



1. THE powder is added to the water and extensively mixed before applying to walls



2. WALLS must be cleaned, scrubbed with a stiff brush, before they are painted



3. IN order to reduce absorption of moisture from paint, walls are first wetted

Cement Paint

THE procedure for painting concrete masonry or monolithic concrete walls is essentially the same; the surfaces of these walls are most successfully painted with portland cement paints with admixtures.

Concrete walls of any type should never be painted without first cleaning the surface thoroughly, removing dirt, dust, and efflorescence which requires cleaning with an acid solution. Coatings of oil paints, enamels, varnishes, shellacs, and others must be removed, generally with acids such as caustic soda solutions which in turn must be completely rinsed off. Whitewash, calcimine and cold water paints can be removed from concrete surfaces with a 20 per cent solution of muriatic acid hosed off when finishes are loosened.

Two coats are used to cover these walls. Before applying the first coat, the wall is wetted to reduce the absorption of water from the paint and to provide a reserve of moisture for the curing process. Only the minimum amount of paint is prepared at one time since it will not remain usable much longer than two hours after being mixed.

The first coat, slightly thinner than the second coat, is scrubbed vigorously into the wall, covering joints in masonry walls first, and filling all openings.

As soon as the surface of the first coat has sufficiently hardened, it is fine-sprayed several times and kept damp for 24 hours to insure proper curing.

The second coat is applied with a

whitewash or similar brush while the first coat is damp. The curing of this last coat is equally important and should include fine-spraying approximately every eight hours for at least two days.

Painting floors

Cement paints are not generally recommended as floor coverings, and, until recently, no paint was satisfactory on concrete floors. However, a new coating with a base of thermoplastic rubber resin has been developed that has proved successful when properly applied.

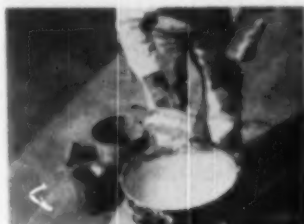
In using this rubber resin base paint, the first important step is the preparation of the concrete floor surface which, in addition to being cleaned, must be etched with a 10 per cent solution of muriatic acid that is allowed to stand on the concrete for 10 minutes before being rinsed with clean water. The surface is then allowed to dry. This etching roughens the surface and provides teeth so that the rubber base coating can key into the concrete.

Before painting old floors with this material it is essential that all oil, grease, and soap, for example, be removed with a lye solution if necessary.

Two coats are needed; a third is advised if the section is subjected to heavy traffic.

Since condensation prevents the bonding of this paint, basements should be ventilated when this paint is being applied.

Did was received in the preparation of this article from the Medusa Portland Cement Company.



4. A STIFF brush is also used for painting. Only minimum amount of paint is mixed



5. VIGOROUS brushing is necessary to insure that all openings in wall are coated



6. SECOND coat is painted on wall with whitewash brush while first coat is damp

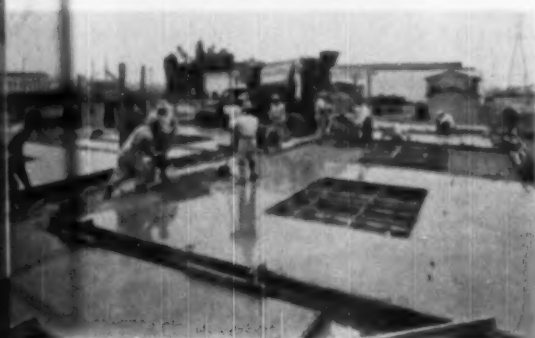


7. LIKE all cement products, cement paint must be cured, sprayed after application



A Report On Cement

Residences Small Buildings



THE tilt-up method speeds the construction of small buildings. Here the sections are being vibrated to insure that walls are well-knit, free from pores. Forms will be re-used for other standardized wall panels.



THIS small industrial building was constructed of tilt-up panels. Cast-in-place columns and beams bind the wall sections. A stiff cement mortar seals the hinge joint at floor level.

THE Portland Cement Association has stated that "The concrete industry is not especially concerned with the architectural design, functional arrangement or size of houses of the future. But the concrete industry is interested in giving future home owners concrete's basic advantages of fire-safety, insulation against heat and cold, and resistance to earthquakes and storms with economy, regardless of style of architecture, size of house, or method of concrete construction which may prevail in any section of the country."

Buildings of concrete and concrete masonry units have low maintenance costs and slow depreciation rates. Their favorable fire and storm insurance rates are a consequence of their fire-safety. When properly constructed, these buildings are cool in summer weather and warm in winter. In 1947, 25 per cent (200,000) of starts used concrete as the principal wall material.

Load bearing wall block or other masonry units should have a compressive strength of 700 to 1,000 pounds per square inch, a quality that most products of reputable manufacturers have. Construction with 8 by 8 by 16-inch block is one of the most common practices and one of the most satisfactory since it provides sturdy sections with a minimum expense. These blocks are easily and quickly laid, and their surfaces can be enhanced by tooling horizontal joints. Random wall patterns utilizing irregularly-sized block and special patented shapes add distinction to masonry unit walls.

Types of concrete construction such as solid reinforced concrete, hollow-wall reinforced concrete, and ribbed reinforced concrete can be adapted to prefabrication techniques. Solid and ribbed walls are constructed on site with tilt-up systems that speed building projects and reduce the requirements for form lumber to a bare minimum. The uses of pneumatically applied concrete, discussed on page 91, include construction of small buildings and residences.

The growing use and adaptability of lightweight aggregates, air entraining cement, waterproofed cement, and high-early cement has increased the versatility of both masonry units and monolithic concretes that now have excellent insulating, sound absorbing, strength, and waterproofing characteristics. A heat loss of .26 B.T.U. per hour per square foot is quite generally accepted as the basing point on which efficiency of heat losses may be measured. Compared with this the heat losses of eight-inch Haydite, cinder, Celocrete, and Waylite concrete masonry walls are .18, .20, .21, and .21

respectively when the cores are filled with granular insulation. In a nine-inch wall with one-inch air space granular loose filled, the coefficient of heat loss for cinder units is .15; for Haydite it is .15.

Although interior partitions need not be furred, these strips are strongly recommended on outside solid unit walls. Condensation occurs when the temperature falls below the dew point and should be protected against the vapor barriers on the warm side of wall sections. Aluminum paint, metallic foil, and paper coated with asphalt are three types of moisture barriers in use.

The tilt-up method has proved to be an economical and successful system for building, especially when it is possible to duplicate panels, for in such cases forms can be re-used and the routine of construction can be standardized.

The steps in this system follow a more or less conventional pattern up to the construction of the first floor. That is, the excavation is finished in the usual manner, the footings and foundations are placed, and the first floor of concrete is placed.

After the first floor has hardened and cured sufficiently to receive loads it is prepared for the casting of the wall sections. The first operation includes covering the floor with a thin layer of sand and 10-pound building felt. This sand and building felt act as the bottom of the form and protect the first floor surface from damage. Windows, insulation, conduits, and reinforcements are then put in place. These steel reinforcing rods are placed on chairs to keep them from the section's surface and are projected six inches on sides so that they will act as dowels and key in with the binding pilasters. After the concrete is placed, screened and finished in the desired manner, it is moist-cured for five days after which it is ready for vertical erection. To facilitate erection, bolts (wrapped in paper so that they can be unscrewed from the wall) are cast into the wall sections. Generally two I-beams hinged to an I-beam yoke support the wall while it is lifted to position by an acceptable lifting rig or crane. In place, braces are nailed to a beveled 2 by 4-inch plate anchored to the top of each panel. This plate later is used as a cant strip for roofing. Wedges are placed at the bottom—at the floor-wall intersection—to provide a space for a mortar joint made of a stiff mix of portland cement mortar which is forced into this crack. Cast-in-place beams and columns tie the units together.

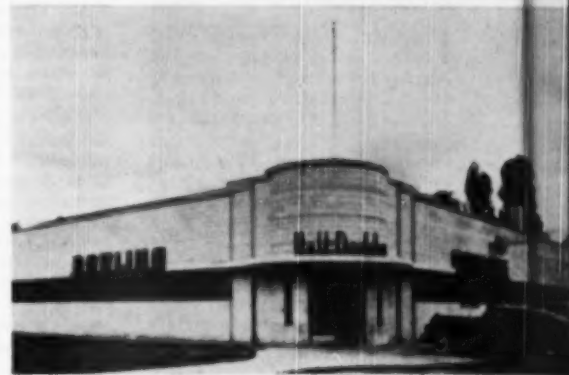
THIS home was constructed of Modern Crete, a patented masonry material that contains no sand or gravel, which can be sawed, nailed or wired. Composed of nonorganic burned materials with millions of sealed-in air cells, Modern Crete has high insulation values.



FLOORS, partitions, walls, and roof of this California house are constructed of reinforced concrete. Although the interior walls are painted, the exterior walls have been left exposed. The form markings are a distinct part of architecture.



STANDARD 8 x 8 x 16-inch masonry units were used as the basic material in this building. Brick form a horizontal motif. A special modular unit breaks the monotony of the entrance and decorates coping. Chimney is also of masonry units.



THE first floor of this home rests on precast concrete floor joists. Exterior walls are composed of hollow reinforced concrete masonry units with exposed mortar joints, as are garden walls. Roof covering is fireproof asbestos cement shingles.





CONCRETE masonry units were selected as the foundation material for the barn shown above because of their durability and economy. At left, concrete porch, walks, well platform, and barn foundation testify to the importance of concrete products on farm

Rural Uses

IN RURAL areas concrete is a wise choice as a building material. Attributes that contribute to its value as a building material on the farm are its durability, cleanliness, and weather- and insect-resistant qualities. Concrete foundations, masonry unit walls, concrete floors, and precast floor joists can be utilized to construct enduring farm structures, and to repair old ones.

Lightweight aggregates in monolithic concrete or in masonry units, vermiculite floor underlayers, hollow core walls, and masonry units with granular loose-filled cores all have qualities that can contribute to the efficiency of rural buildings.

Wood floated floor finishes are the most appropriate in barns and other buildings to give a good surface for animal traffic. Joints in farm buildings, especially in milk houses, should be coved to facilitate cleaning.

Dairy Barns

The milk ordinance and code recommended by the United States Public Health Service states "The floors and gutters of such parts of all dairy barns in which cows are milked shall be constructed of concrete or other approved impervious and easily cleaned material." Concrete does not absorb odors which cause off-flavors in milk. Cooling tanks for milk are commonly built

of concrete. The exterior sections of these milk coolers have a solid core of three-inch rigid insulation covered with asphalt.

If dairy barns are well constructed and insulated, the body of the cows will keep the interior temperature at 45 to 50 degrees Fahrenheit in almost any kind of weather. Concrete is a very serviceable material for bull paddocks, manure pits, stalls, and mangers. Although 34-foot widths are ideal in northern climates for double rows of cows, 36-foot widths for dairy barns are favored in warm climates.

Old barns are restored with con-

crete and concrete products. The buildings are jacked up, old siding is removed (one side at a time to withstand possible heavy winds), corners are established, footings placed, walls and posts set up, and sills of the building attached to the new foundation walls.

Silos

Silos must be windproof, fire safe, vermin-proof, moderate in cost, and reasonably free from maintenance expense. Concrete and concrete stave silos meet all these requirements. Seventy-five per cent of all silos built are concrete or of concrete masonry units such as the silo stave which measures 10x30x2 1/2 inches and is interfitting and bound with steel reinforcing rods.

Extremely high silos are not recommended. When constructing the silo of monolithic concrete, it is advised that commercial steel forms be used which provide for a five- to six-inch wall. Reinforcement is absolutely necessary



HEAT absorbing qualities of concrete recommend it for radiant-heated poultry houses

OLD barns and other farm buildings are restored to new uses and longer life when given new concrete footings and concrete masonry foundations as is being done to the building at the right. New foundations were constructed directly beneath barn while it was jacked up. Further, remodeling provides additional barn space on concrete slab floor that is termite- and vermin-proof



as is proper curing—which is also an assurance against silage acids. All silos must be equipped with lightning rods.

Hog, Poultry Houses

Well-constructed, sanitary hog houses will do more than any other one thing to increase profits in hog production and decrease death rates at farrowing time. The size of the pen depends, of course, on the number and size of the hogs, but it should be observed that high ceilings make cold houses in northern climates and cool ones in the South. Heat loss is reduced in hog houses by using lightweight aggregate blocks, especially when the cores of these blocks are filled with granular insulation. Flat concrete roofs are an additional fire guard for hog houses. Concrete wallows and feeding floors are further sanitary protectives.

Concrete has a high heat absorbent quality—94 as compared with 100 of perfect absolute black—and as a consequence makes an effective material for use in radiant-heated poultry houses. The houses are easily cleaned and maintained.

Cisterns, Septic Tanks

Wells, well pits, and platforms are protected by concrete. Cisterns and tanks should have continuous walls and floors. These tanks will cause the water to harden when they are new—a condition that can be remedied by allowing the concrete to harden thoroughly and by neutralizing the initial tankful with a baking soda solution. These tanks can be built with charcoal filters purify the water.

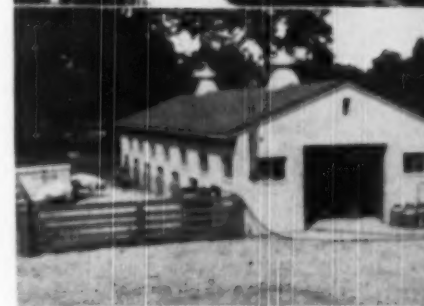
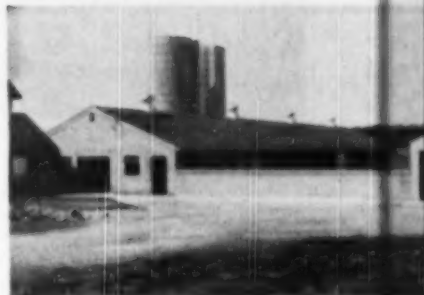
Sewage must be retained in septic tanks for 24 to 60 hours, so a 450-gallon tank is recommended as the minimum size or a 50-gallon capacity for each person in the family—which ever is the larger. Approximately 30 feet of tile is used for each person, with as much as 100 feet per person recommended in tight soils. Tile rows are spaced about 10 feet apart, covered with eight to ten inches of crushed rock, and installed no deeper than 18 inches because bacteria are not active (on sewage) beyond this depth.

Irrigation, Flood Control

Irrigation and flood control are implemented by the use of concrete units. Precast units are used for ditch linings, and concrete pipes are used to carry irrigation water. Waterproofed tile, made of cement with a special waterproofing compound added, are commendable water conduits. Cracks in concrete pipe will heal themselves in the presence of moisture to become stronger than before because concrete will, when wetted, form a sealing calcium carbonate. Concrete flumes have performed valuable service in reducing the ravages of soil erosion.

Feeding floors, granaries, paved yards, loading ramps, and storage sheds are a few of the many rural buildings for which concrete is an especially appropriate building material.

THE three photographs in the right column illustrate other uses for concrete products on the farm. The top photo is of a dairy barn. A concrete stove silo is shown under construction in the middle photograph. Steel reinforcing rods add rigidity to structure. Hog house, lower photo, is concrete block





THIS motor garage and auto oilroom has a stucco exterior applied by A. W. Lee, Inc., Stucco contractors. White cement was used in stucco mortar.

Stucco

DURABLE, fire-resistant stucco is the product of four basic steps: Good building design and construction; steel reinforcing mesh or other good stucco base; properly mixed and cured stucco coats; and prideful craftsmanship.

Points to consider in preparing the structure are the avoidance of concentrated water flows by using overhangs, drip caps, and other water shedding devices. Hangers, fasteners, trim, and other fixtures should be in place prior to the stucco application. Flashings should be installed at tops and sides of all openings and particularly around chimneys that are to be stuccoed. Although stucco is occasionally run to the ground level, it is recommended that it be stopped six inches from the earth to prevent moisture creepage and mud splashing.

Preparing Buildings for Stucco

Sheathing for frame structures to be stuccoed should be more than eight inches wide. This sheathing is covered with 15 pound building paper or felt, overlapped three inches at all joints and flashings. Steel reinforcing mesh or metal lath is then put in place. Mesh is furred out with furring nails that space the mesh $\frac{1}{4}$ to $\frac{3}{8}$ inches from the backup. Joints of the mesh or lath should also overlap one full mesh as ends and sides with joints staggered and lapped three inches at flashings. Nails, on studs spaced 16 inches o.c., are six to eight inches apart. The building is then ready for stuccoing.

On open studding, 18-gauge wire is stretched horizontally across studs in

single strands spaced eight inches to protect the building paper and to form a rigid base for plastering. Over this wire backup is placed the waterproof building paper nailed to the studs. The next step before applying the plaster is lathing the structure with steel mesh or lath.

Portland cement stucco bonds readily to masonry and concrete walls. It is recommended that concrete walls be treated with a mild acid solution and rinsed before the stucco application to insure a clean bonding surface.

Applying Plaster

The mixing ratio for the stucco mortar should not be richer than one part by volume of portland cement to not less than three nor more than five parts of damp, loose well-graded aggregate. Too much cement or too much fine aggregate will cause crazing or checking. Hydrated lime may be added as a plasticizing agent in an amount not to exceed 10 per cent by weight or 25 per cent by volume of the amount of portland cement. Ready-made lime putty is preferred over lime putty mixed on the job.

Proportions should be measured accurately to assure batch consistencies. Materials are thoroughly mixed before water is added, and then wet-mixed with the minimum amount of water necessary to provide a workable mortar. Three to five minutes mixing time, after all materials are in the drum, are required in mechanical mixers. Hand mixing requires 10 to 15 minutes. Mortar should not be retempered, but it is not injured by standing two-and-

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a-half to three hours if it is remixed without adding water.

Stucco is applied in three coats, each one of which is applied in one direction so that the mortar does not harden at the edges. Stops are made only at natural divisions. The first and second coats are scratched to form bonds for succeeding coats. The first or scratch coat, $\frac{1}{2}$ -inch thick, is allowed to cure 48 hours, then fog-sprayed before the second coat is applied. The second or brown coat, $\frac{3}{4}$ -inch thick, is brought to an even surface by floating or rodding. After being cross-scratched lightly, this brown coat is moist-cured for at least 48 hours followed by a seven-day drying period before the final coat is applied. The finish coat should not be less than $\frac{1}{4}$ -inch thick so that the total thickness of the stucco section is about one inch. It is applied over the brown coat after the second coat has been moistened with a fog spray.



MASONRY units form good base for stucco, applied in one direction to prevent dry edges. Clean walls make best bond.



GUNITE, with Rocklite aggregate for insulating qualities, is "shot" on to form 5-inch walls in Arthur E. Martin project

Completing a House a Day

With Pneumatic Concrete Construction

A METHOD of home construction which he believes will trim costs 50 cents a square foot below cost of conventional wood frame and stucco structures has been developed by Arthur E. Martin, president of Martin Gunitite Homes, Inc., Inglewood, Calif.

The method, employing pneumatically applied concrete, is now being used by Martin to build 120 homes in Rialto and 60 in Glendora, Calif. Cost savings, Martin reports after considerable experimenting with Gunitite, result mainly from construction speed. Fifteen days are required for actual construction work of a home, and when it is completed it is a solid steel and concrete structure, fireproof, vermin-proof, and practically earthquake-proof. Insurance costs are down two-thirds from cost of frame buildings.

Built by this patented method, a builder believes homes cost 50 cents a square foot less than conventional frame and stucco structures

In his current projects, Martin completes one home a day, with the following procedure on each house:

First day—Trenches dug for footings.

Second day—Rough plumbing and electrical work.

Third day—Footings and floor slab are placed.

Fourth day—Wall forms built and put in place.

Fifth day—Reinforcing steel for walls prepared.

Sixth and seventh days—Reinforcing steel placed in forms and more electrical work completed.

Eighth day—Exterior and interior walls shot into place with Gunitite.

Ninth day—Form panels stripped from walls.

Tenth day—Exterior and interior walls sprayed with Lithite texture in any chosen color.

Eleventh day—Beams and preliminary roofing placed; topset asphalt floor base laid; windows glazed.

Twelfth day—Built-up roof in-



LEFT to right: Trenches for footings are dug the first day construction begins on a Martin Gunite home. On the second day,

rough plumbing and electrical work are installed, and on the third day footings and floor slab are placed. Right, vertical

dowels one foot O.C. project 15 inches up from slab into outside walls and 15 inches downward into the slab and footings.

stalled; interior cabinets put in place; doors hung.

Thirteenth and fourteenth days—Exterior and interior trimmings painted; bathroom and kitchen enamel coated.

Fifteenth day—Hardware installation completed and forced air heating system is installed.

Since all walls in the homes are load bearing, 12x12-inch footings are poured for each. The footings are reinforced with two $\frac{3}{4}$ -inch bars. Three-

eighth-inch dowels, one foot o.c., project 15 inches down into the floor slab and footings, and 15 inches up into the walls.

After footings are poured, crushed rock four inches deep is placed to form a base for the floor slab. Two layers of 15-pound felt are hot mopped for a waterproof membrane, and placed over the rock before a four-inch concrete slab floor reinforced by steel mesh is poured.

When the floor slab is finished, plywood forms are set in place for ex-

terior and interior walls. Top 2x4 wood members of the forms are secured with $\frac{1}{2}$ x10-inch anchor bolts on 3-foot centers, which project down into the tops of the walls. Two $\frac{3}{4}$ -inch bars are then placed horizontally along the tops of all walls to serve as bond beams. A $1\frac{1}{2}$ -inch bar is placed two inches off the concrete floor slab, and secured to the $\frac{3}{4}$ -inch vertical dowels projecting up from the slab. Then 4x4-inch steel welded mesh is placed in the center of wall spaces. It is secured to bond beams and $\frac{3}{4}$ -inch dowels.

A $\frac{3}{4}$ -inch reinforcing bar is placed horizontally and vertically around all window and door openings. Steel casement windows are hung on the plywood forms at required locations, and $1\frac{1}{4}$ -inch white pine rabbeted door bucks are secured to the forms with long lag screws installed to top and back sides of the bucks.

With these preliminaries completed, both exterior and interior walls are shot with Gunite in one day. In a recent project in Torrance, Calif., Martin finished the walls to a thickness of five inches, and the walls receive FHA credit for insulation value. Rocklite, an expanded shale aggregate, is used for insulating qualities on outside walls, while a straight Gunite mix is used for interior walls. The Gunite concrete must stand a pressure of 3,000 pounds per square foot at 28 days to meet specifications approved by FHA and local building authorities. Walls of the homes are 7 feet 9 inches high on the outside, and 9 feet 9 inches at the highest point.

The plywood forms are removed from the walls the day after Gunite is shot. Martin estimates that each set of forms will build 50 houses. The forms are oiled and thoroughly cleaned after every three uses. After the concrete is shot, a man goes over



STEEL 4x4-inch wire mesh is placed in center of wall spaces and secured to dowels in slab before Gunite is shot against plywood forms. Note reinforcing around steel cement.



MODEL Gunite home built by Martin has a 5x38-foot porch, was completed in 15 days. Floor area is 1,002 square feet

the surface with a trowel and smooths it down, and droppings are picked up with a wheelbarrow and re-used. Following removal of the forms, wood blocks installed at the top of the walls are taken out, leaving pockets for 4x12-inch ceiling beams. These run continuous, six feet o.c., lengthwise of the structure, projecting one foot over exterior ends of the building to carry the roof overhang.

Roofs are covered with T and G,

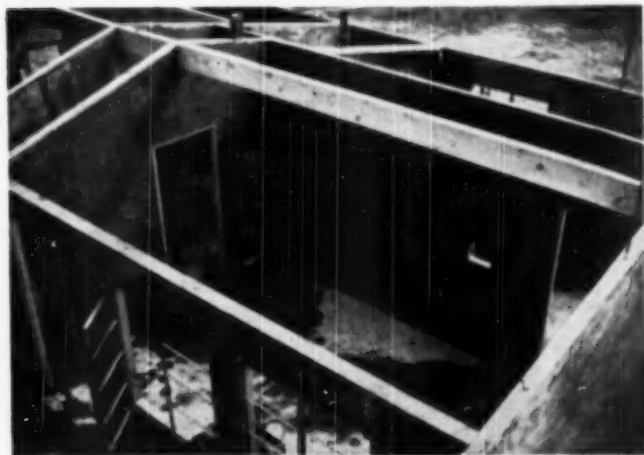
select kiln dried Douglas fir sheeting, and three layers of 15-pound felt hot-mopped and topped with 400 pounds of crushed rock per square. Different colors of rock are used.

Interior walls are finished with a skim coat of exterior stucco before a light sand texture is sprayed on. After both exterior and interior walls are waterproofed and colored with Lithite texture, a 4-inch cold asphalt base is laid on the floor slab. Floors through-

out are then covered with asphalt tile.

Before going into large-scale home building with the Gunite construction method, Martin completed an experimental house in El Segundo and a model home in Inglewood where he maintains his offices. The model home, designed by Martin, with H. C. Whittelsey of Los Angeles as structural engineer, contains 1,002 square feet of space and has two bedrooms, a den, kitchen, dining room, living room, a single car attached garage, bathroom, and a 5x38-foot porch extending across the front of the house. In building this home, Martin established the 15-day construction schedule. In his current projects, six days are allowed for unavoidable delays, and homes are promised for occupancy three weeks after groundbreaking for construction.

Homes currently being completed by Martin have about 850 square feet of floor space and an attached garage and sell for \$7,350. They are heated by Panelray heaters, made by Day & Night Div., Affiliated Gas Equipment, Inc. Construction has been approved by the FHA Washington office and the Los Angeles County Building department. Martin has a patent covering the method of presetting the mudsills and forming Gunite walls thereunder.



INTERIOR walls are finished with skim coat of exterior stucco and light sand texture is sprayed on. Outside walls are troweled, with the droppings being saved for re-use



TECHNICAL GUIDE for Builders and Craftsmen

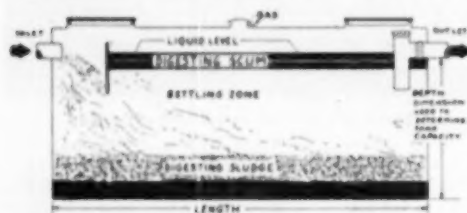
Food Waste Disposer Installation with Septic Tank

ONE of the prime considerations in designing a septic tank system for use with a food waste disposer is the selection of a tank large enough to take care of the load placed on it. It is necessary to provide sufficient space in the tank for the settling out of sewage and food waste solids, and for the storage of these solids during and after the digestion process.

The amount of space required for the settling out of

Consequently it is necessary to double the size of the space in the septic tank set aside for the digestion and accumulation of sludge. Since this storage space may be estimated as approximately 50 per cent of the total tank capacity, it is found necessary to increase the total tank capacity by 50 per cent.

In view of this fact it is recommended that the figure of 50 gallons per person, which is customarily used to



CROSS-SECTION showing septic tank arrangement

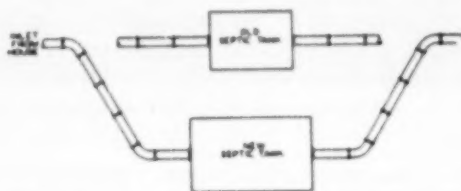
the solids depends primarily upon the amount of liquid which flows through the septic tank during the course of 24 hours. The space required for sludge depends upon the amount of solids entering the septic tank and for this reason this storage space must be increased to take care of the additional solids when a food waste disposer is to be connected with the system.

Investigation has shown that the amount of food waste solids disposed of by a family during the course of a day is approximately equal to the amount of sewage solids.

MINIMUM TANK SIZE AND
CORRESPONDING DRAINAGE FIELD CAPACITY

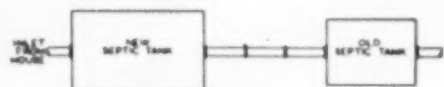
Tank Requirements, Gallons	Minimum Tank Size, Gallons	Drainage Field Capacity, Gallons
300	500	200
375	500	250
450	500	300
525	500	350
600	750	400
675	750	450
750	750	500
825	1000	550
900	1000	600
975	1000	650
1050	1500	700
1125	1500	750
1200	1500	800
1275	1500	850
1350	1500	900
1425	1500	950
1500	1500	1000

Data and illustrations through courtesy of Mullins Manufacturing Corp., Warren, Ohio

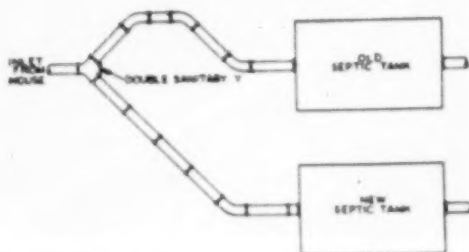


NEW tank to handle increased load may bypass existing tank

figure tank capacity when a food waste disposer is not used, be increased to at least 75 gallons per person when the system includes a food waste unit. In determining the required size of a septic tank, compute two tank capacities, one based on the number of adults, children and servants, and another based on the number of bedrooms in the house. The larger of these two sums should be used to select the proper size septic tank. In computation, 75 gallons are figured for a child or adult, 150 for servant, 150 for a family bedroom and 300 for a servant's bedroom.

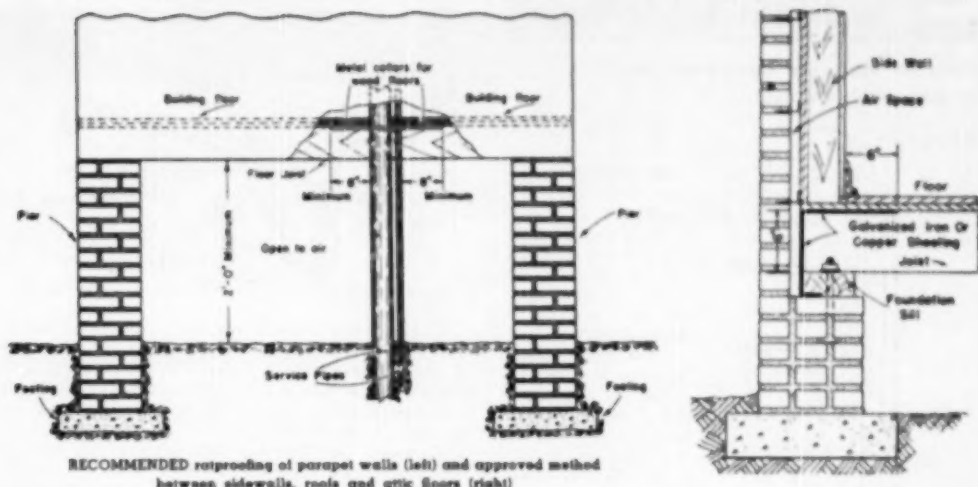


NEW tank may be installed between old tank and house



ADDITIONAL tank to share load should be placed parallel

Ratproofing in New Construction



RECOMMENDED ratproofing of parapet walls (left) and approved method between sidewalls, roofs and attic floors (right)

RATPROOFING of new buildings involves both interior and exterior ratproofing as well as the elimination of interior structural harborage. Effective ratproof construction provides for the complete absence of non-essential openings through which rats may enter buildings and for adequate ratproofing of all essential openings which are wider than one-half inch. Openings in the greatest dimension may exceed one-half inch provided the construction material is highly resistant to bending and is corrosion-resistant. Openings around the bottom, top and sides of doors should not exceed three-eighths of an inch.

Buildings must be constructed of materials impervious to rat assaults, by approved methods of construction and installation, and must employ an approved design that fundamentally eliminates all unnecessary enclosed spaces. Specifications for design, materials, fixtures, etc. may be obtained from local health officers or other designated persons. Advantages of proper ratproofing in new construction are elimination of rat-eradication costs, reduction

of economic loss and avoidance of ratborne diseases.

Some features of building materials and equipment which are important in preventing rat infiltration include:

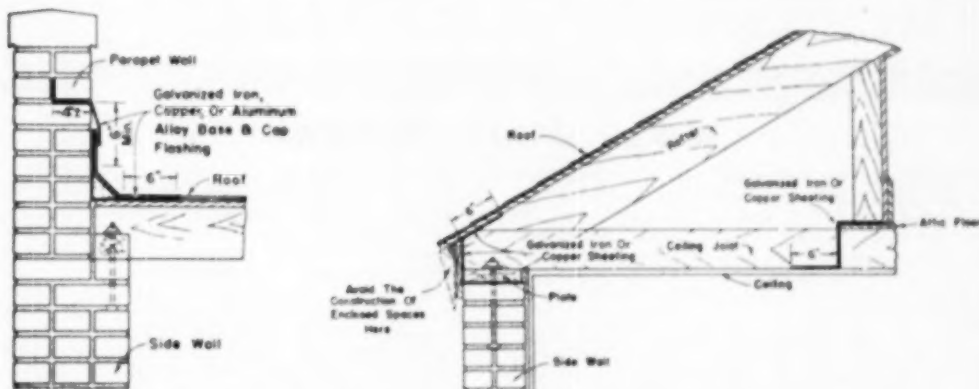
(1) All openings into the outside air in heating and ventilating equipment should be covered by ratproof grills. Enclosed spaces should be eliminated wherever possible, and all openings into necessary enclosed spaces should be completely ratproofed.

(2) Foundation vent grills often contain openings large enough to provide entry for a rat. Specifications should require that these openings be no larger than $\frac{1}{4}$ inch.

(3) Movable louvers on ventilation fans should close automatically when the fan is not operating. When closed, there should be no openings greater than $\frac{1}{4}$ inch.

(4) Interior fixtures should have no enclosed spaces.

A close relationship exists between ratproofing, fireproofing and termite-proofing new buildings. Certain essential steps in ratproofing (such as the elimination of double walls and floors) are equally desirable for fire protection.

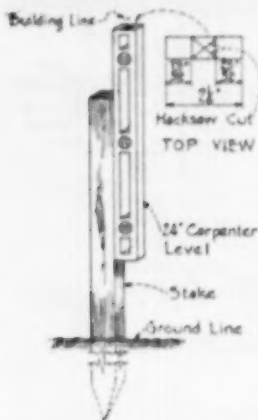


ONE recommended ratproof construction for buildings on piers. Right: Ratproofing method between floor and foundation

Data and drawings through courtesy of Federal Security Agency Public Health Service, Communicable Disease Center, Atlanta, Ga.

TECHNICAL GUIDE for Builders and Craftsmen

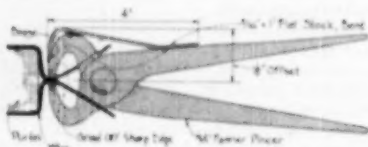
How to Simplify Construction of Concrete Forms



The illustration indicates an idea found useful in erecting concrete form work for small jobs.

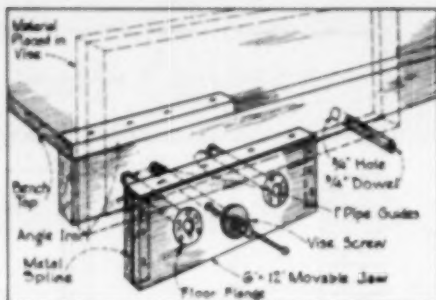
Use a hack saw and cut a line across the top of level 25/32 inches in from each end of the level, as shown in the top view. By the use of these lines the level can be picked up and either end placed against the face of stake. It is then easy to get the exact offset to allow for form sheathing.—Submitted by J. G. Caldwell, San Mateo, Calif.

How to Make a Wire Twister for Concrete Forms



An old pair of pincers or nail nippers are used for this purpose. Grind off jaws of pincers so they will not cut the wire, then build a metal extension on one jaw to act as a fulcrum when pulling and twisting form wire. This is a fast method with no burned wires or skinned knuckles. All wires twisted at one time from the outside of form.—Submitted by J. G. Caldwell, San Mateo, Calif.

How to Make a Woodworking Vise



A sturdy, large capacity vise for woodworking can be made from a vise screw, two floor flanges and two pieces of one inch pipe for the guides. The 6 inch by 12 inch movable jaw is made of one inch maple that is reinforced by two metal splines in each end, an angle iron along the top edge, and the floor flanges.

The splines are inserted by dadoing along each end and inserting pieces of $\frac{3}{4}$ inch by 1 inch metal. The angle iron on top is made flush by rabbeting out the face side. It is fastened on the top with screws, as is the angle iron on the bench, to keep the faces smooth so as not to mar the work.

The usefulness of the vise can be increased by drilling $\frac{3}{4}$ inch holes in the front of the bench in which a $\frac{3}{4}$ inch dowel may be inserted to hold up long material.—Submitted by Wilber H. Falker, Monument, Colo.

How to Increase the Life of a Wood Handle

To ensure that the head of a tool with a wooden handle, such as a hammer, will not become loose, the following suggestion is offered:

Bore a hole $\frac{3}{4}$ inch in diameter in the end of a handle to a depth of about two inches. Fill hole with linseed oil and plug the hole with a small pine plug. The linseed oil will keep the wood alive and the head will not become loose. The outside face of handle may also be given some oil to preserve the life of wood. The pine plug is easily removed periodically to refill with oil.—Submitted by Stafford L. Hill, Belleville, Ontario.

HOW TO DO IT • HOW TO DO IT • HOW TO DO IT • HOW TO DO IT • HOW

G-8... Store Fixtures

THIS month's Detail Plate deals with the design and construction of cases used in the display of special features in connection with the layout of a specialty store. The showcases that form a counter for selling are composed of all glass fronts and tops. The center case is a standard straight front, and the two end cases have splayed glass and wood fronts. All have round tapered legs of varying lengths.

The back case is designed for dual use. It provides for either concealed or exposed selling. When the case is used for selling from concealed stock, as indicated in the photograph, the recessed front portion is used for suggested displays. To make this a direct selling unit whereby the

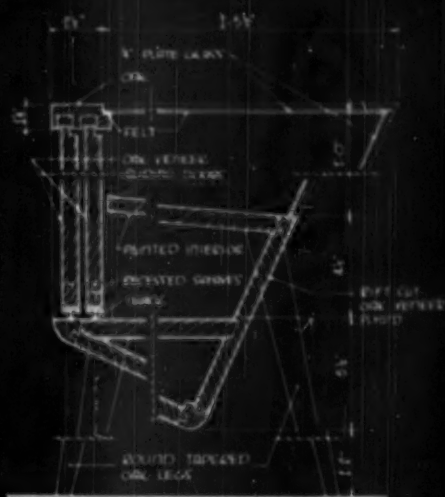
merchandise is exposed to the customer, the entire case is reversed and the shelving which houses plastic trays faces the front. This has proven very successful for special promotions and changing of merchandising schemes. Both cases are constructed of pin grained oak panels and finished in a bleached effect.

A furred down display ledge is placed over the back cases for the entire width of this section. Fluorescent lighting is provided at ceiling in back of display ledge to form background and general lighting for stock portion of case. The color combination of the walls of the store are turquoise, aqua and fuchsia with the ceiling a light orchid shade. The floor is covered with a gray carpet.

AMERICAN BUILDER'S STORE FRONT DETAILS

Designed and Detailed by Louis J. Glavin for American Builder

G-8 · STORE · FIXTURES ·



Section A-A

Blacton, Ltd.

740

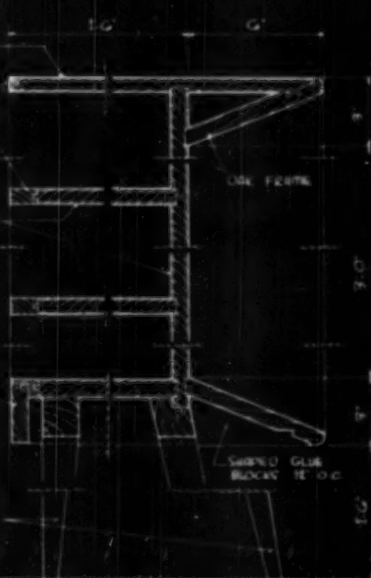
DRIFT CUT OAK
VENEER PLYWOOD
TOP & SIDING

OAK EDGES

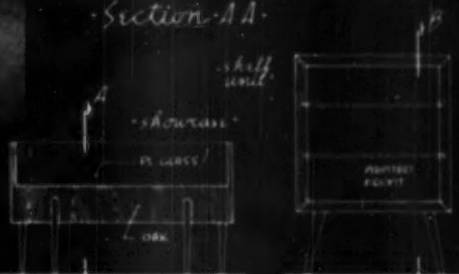
PAINTED STEEL

OAK FRAMA

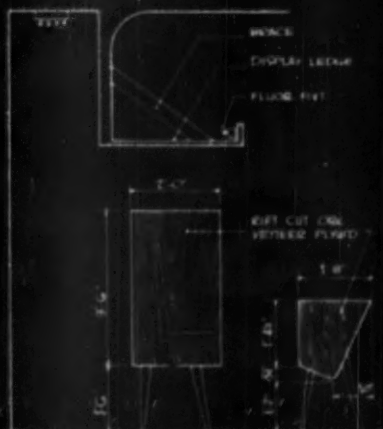
ROUND TAPERED
OAK LEGS



Section B-B

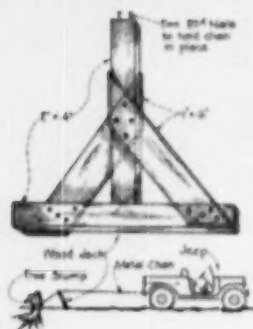


Front Elevation



End Elevation

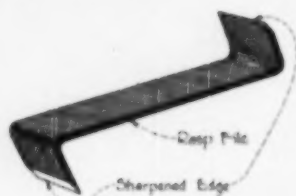
TECHNICAL GUIDE for Builders and Craftsmen



**How to Make
a Jack for
Pulling Stumps**

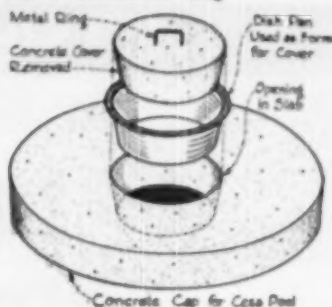
A simple wood jack aids in pulling out stumps and roots when clearing and grubbing. The size and thickness of jack members will vary with the size of the roots and the pulling equipment. Illustration indicates the size members used to pull up Australian pine roots with a jeep after the 30 inch stumps are burned out.—Submitted by George T. Mann, Fort Meyers, Fla.

How to Make a Wood Scraper from Old File



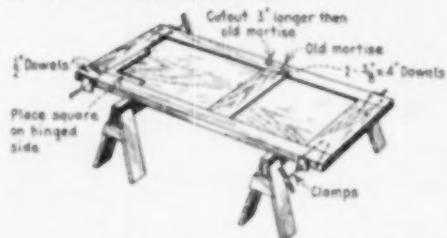
An old rasp wood file can be made into an effective wood scraper with a few minor changes. Cut off the small rat tail of file, heat in blacksmith forge and bend down 1-1/2 inches. Spread ends and sharpen after which be sure to retemper the steel. Edge can be re-sharpened on emery wheel.—Submitted by John Kilcoyne, San Diego, Calif.

How to Make an Opening and Cover in a Concrete Cap



The following method is employed when pouring a concrete cap on a cesspool that requires an access opening and cover. A discarded dishpan that is covered with oil or wax is used as a form. The dishpan is put in position where the opening is to be placed in the slab and filled with concrete. Then pour the concrete in the remainder of the slab. After the concrete has cured remove the lid and pan. When the concrete lid is placed over the opening it will fit nicely all around and the taper of the pan causes the lid to remain in place.—Submitted by Walter E. Plummer, Peoria, Ill.

How to Salvage Old Doors



Use two clamps that will reach across the width of door. Draw clamps up snug but not tight. Square the panels of door by placing a two foot steel square against the rails and stiles and pound them into position with a hammer. Then draw up clamps as tight as possible.

Bore two 1/2 inch holes at the top and bottom of each side stile at a 75 degree angle at least 2-1/2 inches deep. Drive 1/2 inch diameter hardwood dowels in each hole.—Submitted by Frank L. Carey, Sanbor, N. Y.

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No. D-67... Details of Entrance Window Wall

THE ENTRANCE motif of a ranch-type house shown and detailed on the opposite page was designed by Gerhard W. Brandhorst, architect, and built in Minneapolis, Minn. This feature, referred to in the detail as a window wall, occurs in the entrance hall where a series of stairs lead to the various levels of living space. Windows provide an ample supply of light for these areas. It was not the intention of the designer to arbitrarily extend this feature up into the roof area merely for the design effect

obtained, but rather to unite two different roof levels occasioned by the split-level floor arrangement.

The wing walls on each side of the feature are faced with plywood. These walls extend out to meet the roof projections overhead, thus creating a frame around the windows. Window sash are all fixed. Double glazing is employed with each piece of glass set separately in the wood frame with wood stops embedded in mastic. Panels above and below window sash are faced with plywood.

AMERICAN BUILDER'S BETTER DETAIL PLATE

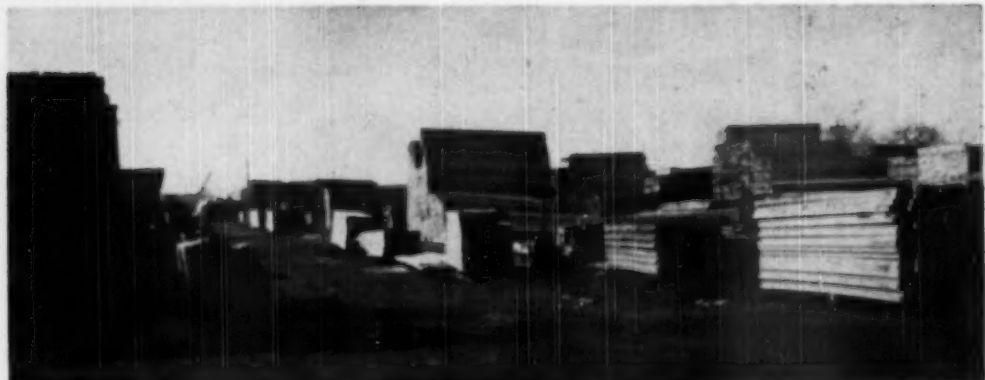
Detailed by E. J. Alexander for American Builder





ONE of nine trucks used by Haenn. Eight of the trucks are about 5-ton capacity and one light for fast movement of small logs

Handling 750,000 Feet of Lumber a Week



PART of the 10-acre yard from which about 750,000 feet of lumber per week is moved to builder jobs in the Philadelphia area

FILLING the lumber requirements of between 100 and 125 operative home and light commercial builders in the Philadelphia area keeps 60 employees, nine trucks, four lumber straddle carriers, three trailer-trucks and one tractor busy moving about 750,000 feet of lumber per week from the Geo. J. Haenn, Inc., yard. This firm maintains an average inventory of about 6,000,000 feet to take care of the needs of their builder-customers, whose operations vary in size from one who erects about 2,000 dwellings per year down to the one-house-per-year builder.

The yard with all buildings covers about 10 acres, including a railroad siding with room for spotting about 15 cars at the same time. These cars

can be unloaded from either side, so that lumber can be placed directly onto delivery units on one side or onto storage piles or drafts on the other. There are four alleys that give access to lumber piles and one alley which is used almost exclusively by the straddle carriers to bring in and take out drafts which average about 4,000 feet each. Framing and structural lumber is piled in the open. All trim finish and millwork lumber is, of course, stored in a large shed and all the building materials allied with lumber, such as the insulations, gypsum products, nails, roofing and others, are stored in an enclosed building. In the Philadelphia area brick, cement, lime, sand and similar materials constitute a specialized business not normally

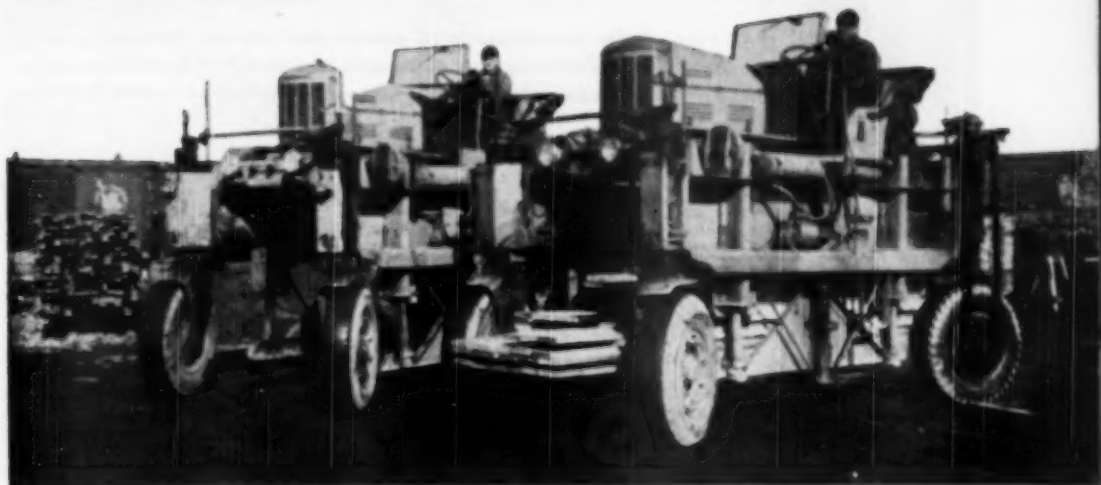
handled by retail lumber dealers.

Three outside salesmen, three salesmen in the yard office, plus two officers of the company—eight men—work together to assure the builder-customers that their orders are filled as requested, piled on the trucks or carriers in a manner most convenient for the users, delivered on the site where most convenient for workmen and placed in a neat pile there. The outside salesmen act as expeditors for special orders, rush requirements, and serve as good will ambassadors. They work closely with builders and architects to help them solve any unusual or troublesome problems on lumber or other building materials, whether these problems concern lumber prices, quality, sizes, delivery or other difficulties. The builder-customers of this yard get plenty of attention, with a salesman from the firm calling at the builder's office regularly. For this reason builders rarely find it necessary to visit the offices and salesroom of Geo. J. Haenn, Inc.



FRONT of the office and display room of the Haenn yard in Philadelphia. Because the bulk of business here is with builder-contractor customers, there are no elaborate displays in the showroom nor in the windows. There are fully adequate facilities here, however, in the form of office space and conference rooms for conferring with customers, servicing accounts

Large volume moved requires good co-ordination between all elements of the organization to keep building operations on schedule and building costs down



TWO of the four Ross carriers operated in this yard. These carriers are kept busy all the time moving lumber in the yard and to jobs within a 30- to 35-mile radius

A resawing operation is maintained for the convenience of customers as well as to cut odd sizes and special material for unusual jobs which might call for such lumber. A combination band, rip and resaw unit is the core of this operation. A radial arm saw is used for cutting door and window trim, base, and other finish lumber to exact length for customers. This is done at no additional charge. Material thus processed is delivered to the job ready for the carpenters to fit. In most cases all lumber orders are banded with steel tapes, whether it is a full truckload or a part of a load. This is done, not only to keep the lumber in better shape in transit and during the unloading process, but also to discourage thievery from the builder on the project.

Truck drivers start work at Geo. J. Haenn, Inc. at 7 o'clock in the morning. Usually the trucks are loaded and ready to move at that time or shortly thereafter. This schedule is maintained by the dealer so that the orders will start arriving on the job sites around 8 o'clock in the morning when carpenters get started.

The casual visitor to this lumber yard sees a great amount of activity by a great many people, none of whom seem to lose any time or indulge in any wasted motions. Trucks and straddle carriers move about loading and unloading material without any apparent confusion. This smooth running yard

operation is run by one foreman and three assistant foremen. One assistant is assigned to take care of railroad cars on the track. He is responsible for getting them unloaded and out on time without demurrage charges. This same assistant foreman also has charge of unloading and warehousing the materials other than lumber.

The second assistant yard foreman is in complete charge of piling the lumber. The other assistant foreman is charged with the responsibility of keeping orders filled and moving from the yard smoothly and in a manner satisfactory to the customers. He sees to it that lumber is piled on loads the way the builder wants it. On small jobs, the first material to be used is placed on the load last. In most large jobs, complete truck loads of the various types of material are hauled to the site and piled in strategic locations for use by workmen. Builders appreciate this type of service because it can mean dollars and cents in time saved by their workmen in promptly getting out the material as required.

This firm, which has been in business in Philadelphia since 1889, not only takes care of the huge volume of builder business outlined here, but also does a sizable volume in consumer jag trade. The Mehl & Latta, Inc. yard in suburban Philadelphia, an affiliate of the Geo. J. Haenn, Inc., firm, caters almost entirely to the home-

(Continued on page 148)



TWO trailer units loaded and ready for tractor which is used for three trailers



RAILROAD siding where 15 average railroad cars can be spotted for unloading



STORAGE sheds for finish lumber and other grades that cannot be piled in open

Simplified Method Speeds Construction



Robert Cox

Factory-assembled panels and precut materials used in construction of homes are erected by following a simple plan. The results are profitable to this builder

BY USING a manufacturer's "pre-engineered" house construction method, an Akron, Ohio builder is cutting hours out of construction time and converting the savings back into his homes to add sales appeal. His success is shown in this record: A year ago, 27-year-old Robert Cox changed

his status from carpenter to builder, completed and sold 19 homes in six months, and had sales for 27 more. Now, with 35 completed, sales are still "far in advance of construction."

Plans of the house Cox desires to build are submitted to Lumber Fabricators, Inc., Fort Payne, Ala. This

firm sends enough material in one truck load to completely frame one house. While the "package" is arriving, Cox prepares the grade, places the 8 x 16-inch concrete footings and concrete block foundation walls, and makes a 6-inch gravel fill.

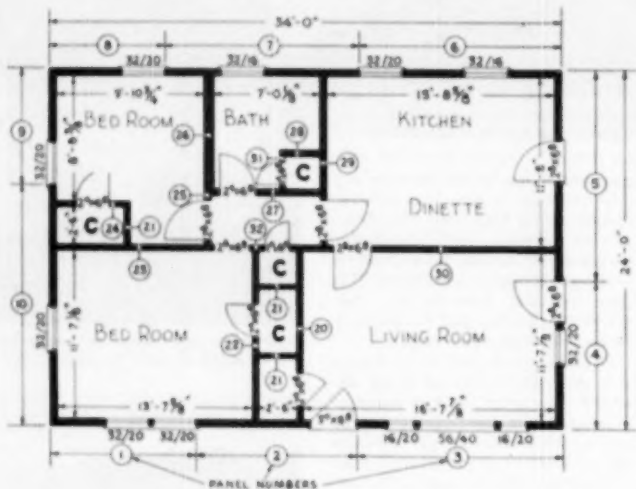
Most popular design used by Cox is the Tri-Level home, originally designed by Detroit Architect Walter B. DeGree (now copyrighted and sold by LFI builders). With three bedrooms, dining room, recreation, utility room and a basement, it sells for \$10,800 without lot. LFI method used by Cox in the construction of this home is typical of all homes built by the method.

Included in the LFI materials package are precut 2 x 8 floor joists, and subflooring with diagonal cuts already made. These are conventionally installed, the joists placed 16 inches o.c. After the subfloor is completed, factory-assembled outside wall panels go up (in the order indicated in accompanying floor plan). "After building the third house, we no longer had to look at the plans," says Cox. "The panels are numbered, and the sequence of their installation is simple."

Each outside wall and partition panel is made up of 2 x 4 studs, 16 inches o.c., with two 1 x 4-inch pieces that act as braces nailed on horizontally, one 32 inches from the bottom of the panel and one 32 inches from the top. Outside wall panels have factory-applied 1 x 8 shiplap sheathing. Each partition panel is metal-reinforced at all four corners, and outside wall panels have diagonal corner bracing as well as two horizontal corner braces.

All materials for roof framing are precut when they arrive in the package, and conventional construction methods are used in their erection. Gables are paneled, usually in two sections, and are erected prior to roof ceiling joists and rafters. Roof sheathing is supplied by LFI and Cox purchases roof covering from local dealers.

After the subfloor is completed, Cox says he can have a home under roof

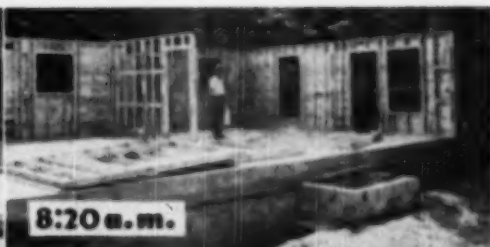


FLOOR plan shows erection procedure with LFI method. Each panel is numbered in the order it will be installed. Notice that exterior wall panels are erected first. Six-room LFI home below sells for \$13,000, without lot, in Akron





8:00 a.m.



8:20 a.m.



9:45 a.m.



11:05 a.m.



11:40 a.m.



gone to lunch

CONSTRUCTION procedure and speed are illustrated in these photographs of an LFI home taken in a 4-hour period. These homes are put under roof by Robert Cox in Akron in slightly more than one working day with a four-man crew. Lath and plaster are used for inside finish; outside wall coverings are varied.



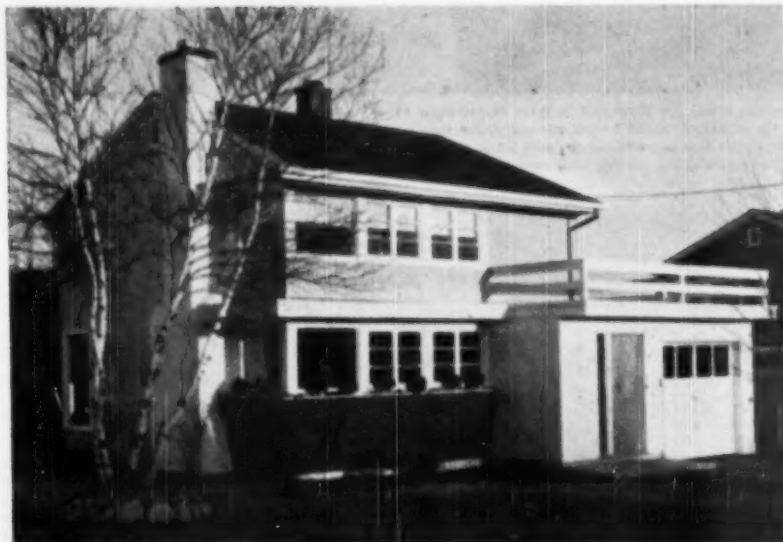
TRI-LEVEL home, copyrighted and sold by LFI builders, is most popular home built by Cox in Akron. With three bedrooms, dining room, recreation, utility room and a basement, this type home sells for \$10,800, without lot

Maximum living area with a minimum of cost obtained in

TWO-STORY HOUSES



FIVE room basic house offered at \$9,900. Fire-place, attached garage and utility room \$1,180 additional. House placed on a 80x100 foot lot, complete with grading, seeding, and shrubs.



A VARIATION of the basic five room house in which the plan has been reversed. Special physical changes have been made to living room windows, base, cornice, garage treatment and rail. Vertical facing was used on main walls of house. Plans shown on opposite page are for the basic five room house with attached garage. Additional bedroom over garage is indicated by dash lines on drawing

For the same amount of money, builder provides 30 per cent more floor area per cube by placing one floor above the other instead of all rooms on ground floor



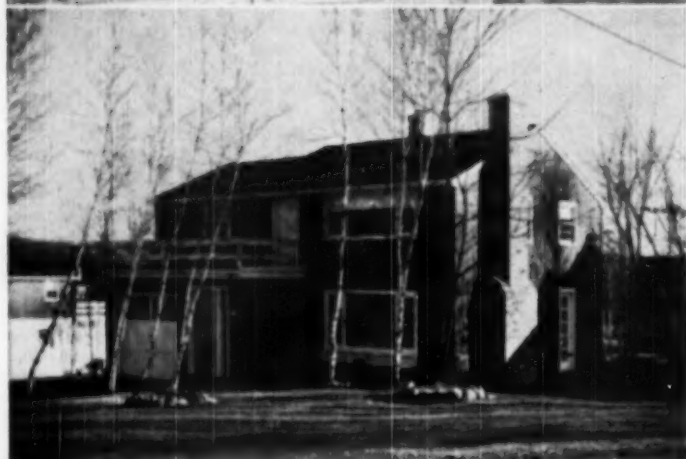
A BUILDER's "know-how" combined with architectural skill are currently producing two-story houses that are now selling under ten dollars a square foot including lot and landscaping.

These homes are situated in a 200 house project at Waldwick, N. J., called "The Highlands." The project is under development by Zamore Builds, Inc. All of the houses are two-story, and are erected on insulated concrete slabs. They are variations of a basic plan that contains two and three bedrooms. The architects, Petroff and Clark, have successfully varied the exteriors of these houses by definite physical alterations and the use of different colors, materials, and finishes, without losing sight of the over-all planned economy features.

The development was started in April, 1949, and to date 57 houses have been completed. The houses are built on 60x100 foot lots and range in selling price from \$9,990 for the basic two bedroom job with finished garage and utility room extra, to a three bedroom unit with fireplace, garage and utility room for \$12,140.

In designing these homes, the builder and architects, who are opposed to the present trend to ranch houses, followed their firm convictions that savings in basic costs can be established by placing rooms one above the other instead of along the ground. They found that up to 30 per cent more floor area per cube was obtained in these two story houses than could be obtained in a one story house in the same price range. Not only that, but a "custom-built look" was achieved in each of the houses that comprise this large scale speculative project. This type of cooperation and clear thinking on the part of builder and architect is to be commended. It does away with the monotonous sameness of operative projects that is prevalent in so many of the outlying suburbs of our large cities.

Extensive land planning was undertaken with each lot and house platted before actual work was started. Streets were planned with curves and cul-de-



THREE distinct variations of the six room houses are shown on this page. Each design presents an entirely different front with the basic plan elements remaining the same. A flip-over of the plan plus changes in exterior facing resulted in the altered appearance of the houses shown in center. These houses sell complete with all features for \$12,140

sacs. Complete grading and seeding, as well as shrubs and plants are provided by the builder.

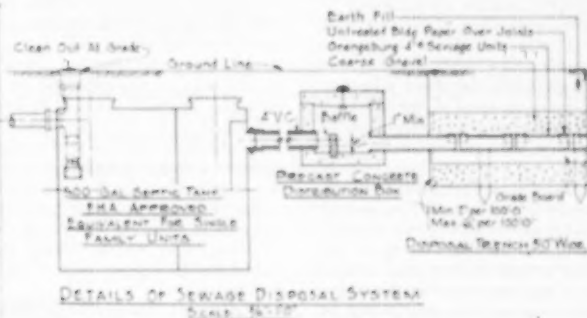
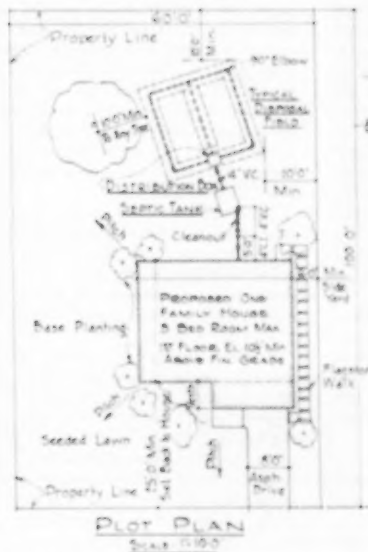
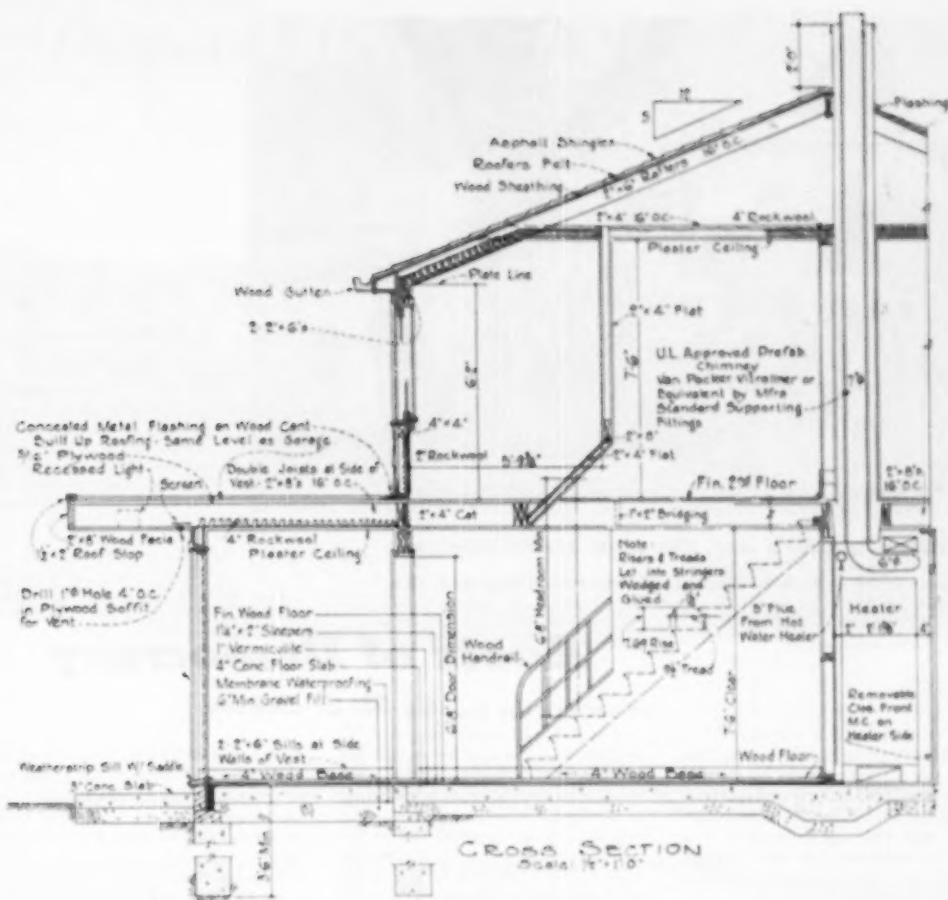
Construction follows the best practice of these builders. Perimeter foundation walls are eight inch concrete blocks placed on 12-inch-wide spread footings. Four inch slab rests on six to ten inches of wetted gravel, tamped and sealed with membrane water seal. One inch of vermiculite concrete is placed on top of slab for insulation. Wood sleepers treated for termites are placed on slab with pre-finished oak floor secured to sleepers.

Exterior wall framing is wood insulated with fiber glass. Second floor ceiling has Rock-wool insulation. Interior finish throughout is plaster. Interior doors are flush birch veneer with solid brass hardware throughout; double hung windows are Curtis; plumbing roughing-in is copper. Exteriors are combinations of cypress vertical siding, pine horizontal siding and cedar shingles. Ceramic tile walls are provided in bathrooms.

Members of the Zamore Builds, Inc. are Birger V. Zamore, president; David P. and Richard W. Zamore, vice-pres.

A TYPICAL partial cross section of house is shown on opposite page, taken through the front entrance, stair and heater room, showing installation of approved prefabricated chimney with relation to heater. Layout and details of typical sewage disposal system used in connection with each house

AMERICAN BUILDER



Notes

Plot Plan

- 1 Plot Plan Shows Typical 6000 Sq Foot Lot

SEWAGE DISPOSAL DETAILS

1. Exact Location, Coverage, And Size Of Disposal Field To Be Adjusted As Required By Grades Of Individual Plots
2. All Details And Clearances To Conform To F.H.A. Requirements And Local And State Health Requirements For Single Family Unit
3. Disposal Field Shown (400 Sq. Ft. Area) Provides 245 Sq. Ft. Of Borech Absorption Area Suitable For All Locations Where Percolation Tests Show One (1) Inch Fall Of Water In 5 Minutes Or Less



IF AMERICA is to perpetuate its great historical tradition, it must recognize the necessity of rearing tomorrow's generation for tomorrow's needs. A sense of family security in a family-owned home is one of the most healthful conditioning environments for today's youngsters who will be tomorrow's citizens.

In this expanding age, the most stable elements in America are family-owned homes—they are the

Roots of Democracy

By R. E. Saberson

SURE it's going to take a long time to pay for many of the houses that now are being bought with down payments (if any) that are unbelievably small and with the assumption of a monthly obligation that may continue as long as the family lives in the house . . . or even longer.

However I am not one to deplore the situation, regardless of the shoe-string aspects of some of the cases that frequently cause much fretting and fingernail biting by those who perceive grave dangers in the tendency to encourage families to obligate themselves for a home on terms that assuredly have reached a new low (or shall I say "high") in their liberal aspects.

It seems to me there are even greater worries to be considered than whether a family will be able to keep up the monthly obligations on their "own" home . . . especially when these payments are lower than they would be required to pay for less commodious quarters in an unattractive apartment.

Whether we are willing to admit it or not, we now are faced with the herculean task of rooting Americans to a spot they hope eventually to call their own . . . to offer them an opportunity to taste the sweetness of the security which stems from the knowledge that they have a roof of their own over their heads . . . to tie them, if

possible, to our way of life and all that it can be made to mean.

I am fully aware that the opponents of too-liberal terms as applied to home buying will question my use of the word "own." So be it! The hardboiled economist will no doubt be able to put the transaction through the rolls of his wringer, or the meshes of his sieve, and come up with a pathetically small residue of equity to prove his case. Measured by the standards of what constitutes adequate collateral for the loan, the "owners'" share at first may not stand the critical inspection of loan committees that are well insulated from the emotional impacts of a restless world. That I will admit readily.

But isn't there far more involved in our present situation than is apparent to those who merely shrug their shoulders with a great show of futility and say:

"Admittedly today's home buyers may be able to meet the monthly payments for the time being but what about tomorrow?"

That, of course, hits the nail squarely on the head! What about tomorrow?

Are the tomorrows of less concern to those who are living in unsatisfactory quarters in some apartment building where the length of their sojourn is determined by the memo-

ritual edict of an unknown owner, or the unyielding clause in the fine print of a lease which in effect says "On your way" when the rent check fails to put in its appearance at the allotted time.

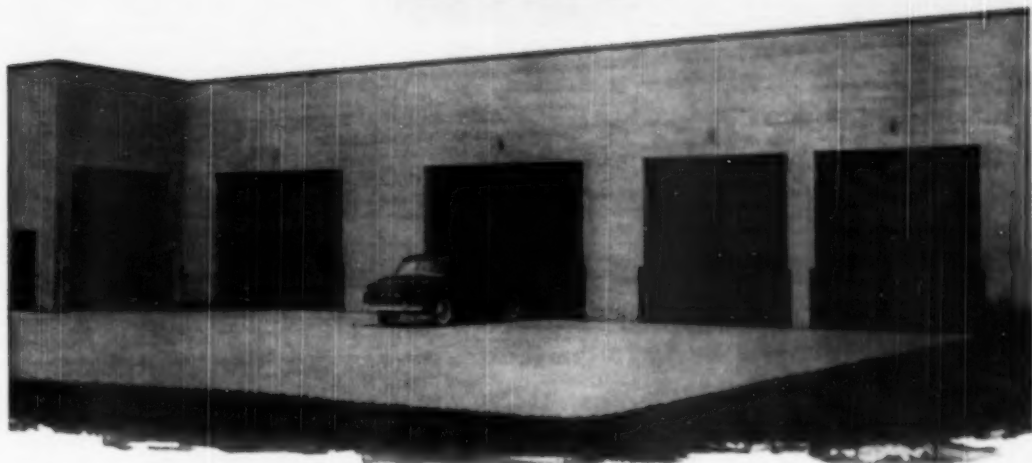
I discussed the subject recently with a friend who pointed out that he had saved for a rainy day a certain percent of his income from the time he earned his first dollar, and I agreed fully with the wisdom of his policy. It was his further contention that more families should now own their own homes and that greater frugality on their part . . . fewer automobiles, radios and such . . . would have enabled them to do so.

No doubt his second premise was as true as his first but it so happens that it hasn't worked out that way for innumerable families because, for one thing, it was so much easier to buy an automobile, or something else, than it was to buy a home.

Without this ease of purchase there would be no automobile industry as we know it today and America would not be on wheels. And whenever you put the families of any nation on wheels you promptly create an implement of destruction until you likewise provide a stabilizing factor that will again anchor them to their communities.

(Continued on page 190).

Owners *LIKE* what they *GET* in **Rō-Way** Overhead Type Doors



Look at overhead type doors from the owner's standpoint and it's easy to see why so many prefer Ro-Way.

THEY LIKE RO-WAY STYLING

Clean, simple lines designed to blend with any style of architecture.

THEY LIKE RO-WAY QUALITY

Personally selected, high grade west coast lumber in stiles and rails. Threeply exterior grade water-resistant Douglas Fir panels. Heavy-gauge steel hardware.

THEY LIKE RO-WAY CONSTRUCTION

All mortise and tenon joints glued—then steel doweled. Muntins, rails and stiles accurately squared up. Sections rabbeted to assure weathertight joints. Track rollers built with double-thick tread. Springs *Power-Metered* to the weight of each door.

THEY LIKE RO-WAY FINISHING

Millwork drum sanded to a uniform preliminary finish, then *hand sanded* for the final touch of silky smoothness. All hardware Parkerized and painted *after* fabrication—no rusting, no unsightly rust streaks.

THEY LIKE RO-WAY OPERATION

The smooth, easy-up easy-down operation of ball bearing rollers running in Ro-Way's exclusive friction-reducing track.

See your classified telephone directory for name and address of Ro-Way Distributor, who will give you expert installation service.



Owners also like the care with which Ro-Way's National Network of selected Distributors erect all Ro-Way Industrial, Commercial and Residential doors.



It all adds up to owner satisfaction. And after all, isn't that what you want? To be sure you get it, specify Ro-Way Overhead Type Doors for all industrial, commercial and residential applications. ROWE MANUFACTURING CO., 769 Holton St., Galesburg, Illinois.

There's a RollWay for every Doorway!



TECHNICAL GUIDE for Builders and Craftsmen

Plaster Arched Openings for Small Homes

The inspiration for the drawings in the two adjoining columns came to C. D. Robb, architect, Frankfort, Ohio, after visiting a large number of new homes recently built in this community. Robb states that over 50 per cent of the new homes are still using plaster arched openings and that it is the exception to find a house with a good set of plaster arches.

For the builder's guidance there are standards that have proven successful and have been established as fixed design patterns. These forms will in all cases produce the desired results if followed correctly.

The column listed as "How-NOT-To-Do-It" indicate a number of examples that are badly proportioned though frequently used. The column listed as "How-To-Do-It" are correctly proportioned examples of the same arch.

ARCH "A": By reducing the radius of the arch at corners as indicated under the "How-To-Do-It" column, it is possible to treat the openings of lesser widths with the same radius. This makes for better scale and proportion. The straight arch can be used for all spans by varying the height.

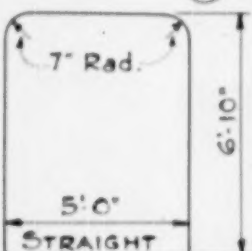


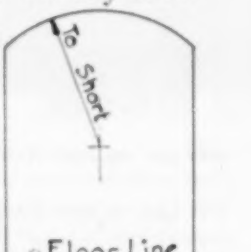
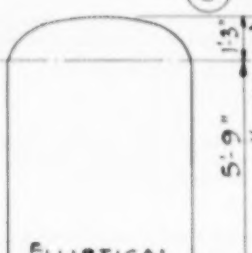
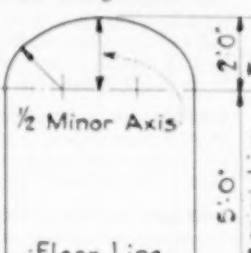
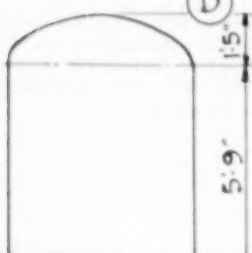
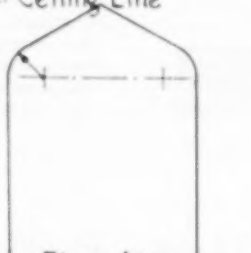
ARCH "B": By keeping the radius long, at least $1\frac{1}{2}$ of the span, a better proportioned segmental arch is obtained. This balanced proportion is maintained regardless of the width of span. In this case the height also varies with the span width.

ARCH "C": A simple method for full-sizing the elliptical arch is shown on page 116 of the January 1950 *American Builder*. One-half the minor axis can be $\frac{1}{2}$ to $\frac{3}{4}$ of the span, but the spring line should never be lower than five feet nine inches or higher than six feet. Distance between top of arch and ceiling line should be one foot or more.

ARCH "D": The Tudor arch is a four center arch. No straight lines are employed in the arch structure. This type has limited use and should never be used in a colonial or modern designed home.

GENERAL NOTE: Arches B-C-D should never be used for spans of seven feet or over. The arch then becomes distorted and is out of scale with the room in which it occurs. The four types of arches shown are the most frequently

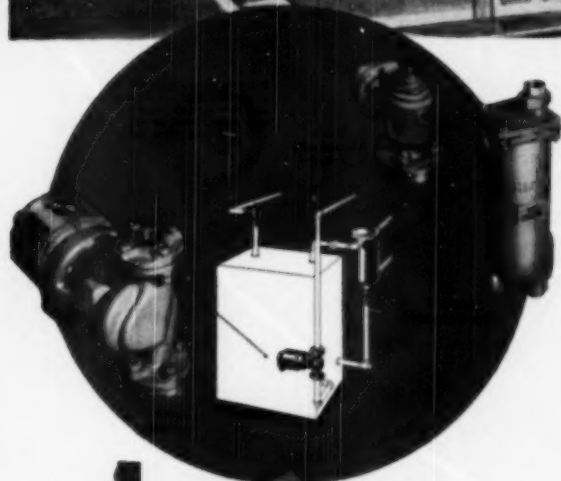
(Continued on page 130)

HOW TO DO IT	HOW NOT TO DO IT
<p>(A)</p>  <p>7' Rad. 5' 0" STRAIGHT 6' 10"</p>	 <p>1' 3" Rad. 5' 0" Ceiling Line Floor Line</p>
<p>(B)</p>  <p>Rad. $1\frac{1}{2}$ of Span 6' 8" SEGMENTAL</p>	 <p>Short 6' 8" Ceiling Line Floor Line</p>
<p>(C)</p>  <p>1' 3" $\frac{1}{4}$ of Span 5' 9" ELLIPTICAL</p>	 <p>1' 3" $\frac{1}{4}$ of Span 5' 9" Ceiling Line Floor Line</p>
<p>(D)</p>  <p>1' 5" 5' 9" TUDOR</p>	 <p>1' 5" 5' 9" Ceiling Line Floor Line</p>

NO JOB TOO **BIG** OR TOO **SMALL** FOR B & G *Hydro-Flo* HEATING



Units of a 576-family housing development equipped with B & G Hydro-Flo Heating.



This Forced Hot Water System sets new standards of comfort and economy

Forced hot water has inherent advantages which mean better heating in buildings of every size and description. That's why you find B & G Hydro-Flo Systems in small low-cost homes and in buildings where radiation is measured in hundreds of thousands of square feet.

B & G Hydro-Flo Heating provides *controlled radiant warmth* . . . assures both economy of fuel and supreme comfort in any weather. For heat distributors you have a choice of radiators, baseboards, convectors or that miracle of modern heating—*completely concealed radiant panels!*

Uniform indoor temperature—no wasteful overheating

The heat supply is always matched to the weather—so exactly that from Fall to Spring indoor temperature is kept constantly at the comfort level. The B & G Hydro-Flo System furnishes *just enough heat* . . . never burns fuel needlessly.

B & G Hydro-Flo Heating is not for just a few. Everyone can enjoy its benefits because this great advance in living comfort comes within the cost limits of even modest homes.

Send today for free booklet, "Capture the Sun with B & G Hydro-Flo Heating."



No fuel wasted—no uneven temperatures in this home with B & G Hydro-Flo Heating.



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Up, Up, Up... go the sales of Kwikset locks. This phenomenal demand is the result of our determined policy to provide the building industry with the outstanding residential lock value... a top quality lock, competitively priced for volume sales. Our success in achieving this goal is evidenced by the millions of Kwikset locks now being sold every year. We have grown rapidly... and we intend to continue growing. Our continued growth will necessitate certain changes. Our plant facilities are being increased. Factory-direct service will soon be established. New additions to our present line of locks will be announced shortly. We want you to know about these changes and to understand why they are being made. For all are designed to provide you with a truly outstanding lock value backed by one standard of quality, one source of supply and one responsibility.

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MATERIALS AND WORKMANSHIP UNCONDITIONALLY GUARANTEED



.....Kwikset Reports

Sales

Sales of KWIKSET locks are at an all-time high. Millions are being sold annually. This tremendous demand is proof that KWIKSET fills a long desired need in the building industry... that they continue to be the outstanding residential lock value in the market. They provide a high quality, low cost lock of infinite beauty, simple to install and unconditionally guaranteed.

What does this mean to you? KWIKSET's volume sales mean more profits for jobbers and dealers, greater value for builders and home owners.



Marketing Plans

KWIKSET LOCKS, INC., is an independently owned and operated manufacturing company. Today, KWIKSET's entire production is sold through an exclusive distributor whose contract expires before the end of the year. KWIKSET will soon establish a factory-direct sales and service organization to comply with the trade's overwhelming desire to deal directly with the factory.

What does this mean to you? KWIKSET factory-direct sales and service means traditional KWIKSET product quality backed by one source of supply... one standard of responsibility... sound, friendly business relations.



Distribution Policy

KWIKSET pledges complete protection and continued service for jobbers now handling the KWIKSET line. KWIKSET locks will be sold through recognized channels according to legitimate trade practices, at competitive prices and discount rates. Sales efforts of jobbers and dealers will be backed by KWIKSET's aggressive advertising program.

What does this mean to you? To jobbers and dealers, it means greater sales volume, faster turnover, more profits. To builders, it means better and faster service because of wider distribution.



Manufacturing

In the past three years KWIKSET has increased plant capacity 1000 per cent. Demand continues to be so great that further expansions are now underway. Our plant is a model of modern mass-production efficiency. Thousands of locks come from our assembly lines every working hour. Employee productivity and morale are at an all-time high.

What does this mean to you? KWIKSET's advanced manufacturing facilities mean cost-saving mass-production. They insure top quality, precision built locks competitively priced for volume sales.



New Products

Our research and engineering departments are continually developing new and improved products for the building industry. We will soon announce an important addition to our present line of 5-pin tumbler locks. These new locks are designed to complement our present line. Many revolutionary advantages will make them the outstanding lock value in their class.

What does this mean to you? KWIKSET will maintain product leadership and customer acceptance by continuing to provide the building industry with outstanding lock values.



Looking Ahead

We approach the future with confidence. Our past success is history. Our future success is dependent upon our ability to provide better products and services to the building industry. We will establish our own factory-direct sales and service organization. We will expand distribution. We will strengthen jobber and dealer relations. We will increase our production facilities. We will introduce new products. All of this will be done to keep KWIKSET the outstanding residential lock value in the market.



This Message has been presented to tell you about the Kwikset plant, products, policies and plans for the future. We sincerely invite your inquiries and comments. Write: A. Schoepe, President, Kwikset Locks, Inc., Anaheim, California.

KWIKSET LOCKS, INC. ANAHEIM, CALIFORNIA

LOOK TO KWIKSET TO BE FIRST AND FOREMOST WITH TOP QUALITY RESIDENTIAL HARDWARE



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STEP RAILINGS



NOW YOU CAN BUY Standardized Stock Step Railings and Rail Sections

Coffman's handy stock rails are in modular sizes to conform with modern building practices. For instance, brick steps lay up to 7" risers and 12" treads, the same as Coffman stock step rails. Note illustrations showing installation and completed job. Coffman rails save time and produce a stronger, better job. Buy and install railing the modern way.

ORDER RAILINGS BEFORE BUILDING THE FORMS

Order your railings in advance, before building the forms. Set them in the easy way.

STOCK RAILS MEAN LOW COST

Coffman stock railing costs less yet has the same quality as higher priced made-to-measure rail, and is made to the same exact specifications. Note low contractor prices of the rail illustrated:

2 Step Rail	\$ 8.65
Newel Post	3.30
3' 2" Section	12.20

F.O.B. Factory \$24.15

EASY TO INSTALL



Installation is simple and fast. Only 4 bolts attach sections to newel post. Fit is perfect. Coffman rails come complete with all sections, bolts, etc.



STURDY COFFMAN RAIL CONSTRUCTION

Made in six
different
lengths
2' 0" to 5' 3"
for any need.

Write for Form 712 AS TODAY! P. O. Box 1115. Gives details and interesting "how to use" ideas.

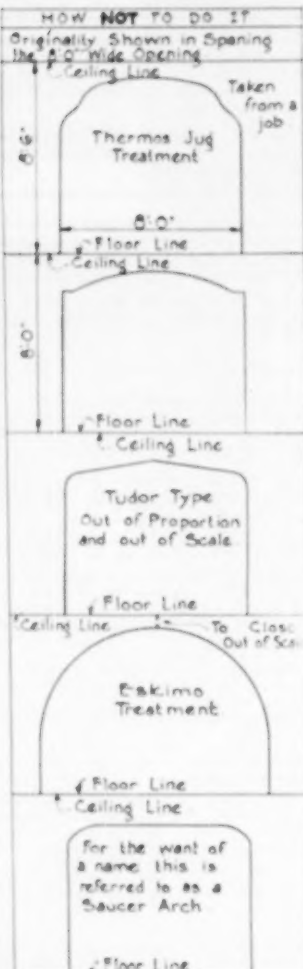
The R. J. Coffman Co. Inc.
ORLANDO, FLORIDA

How-To-Do-It-How-To-Do-It

(Continued from page 126)

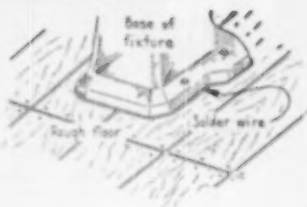
used in small home design in all sections of the country. When other type arches of special design are used they should be carefully detailed in proportion to the room before actual construction work is started on the arch.

A group of arch openings of varied designs which exceed the seven foot span are shown below. When considering the height of the room with the



span of the opening all of the types shown are out of proportion or occur too close to the ceiling line. A simple, straight arch with a seven inch radius curve at corners will serve more acceptably in most cases.—Submitted by C. D. Robb, Frankfort, Ohio.

How to Fit Linoleum Around Fixtures



TO AVOID trouble in fitting linoleum around bathroom fixtures that are already in position, use a section of solder wire as a template. The lead solder wire is bent in position around the base of fixture following its irregular contours. The wire is then carefully lifted and transferred to the linoleum. Marking and cutting for accurate fit thus becomes remarkably simple.—Submitted by John W. Sherman, Herkules, Pa.

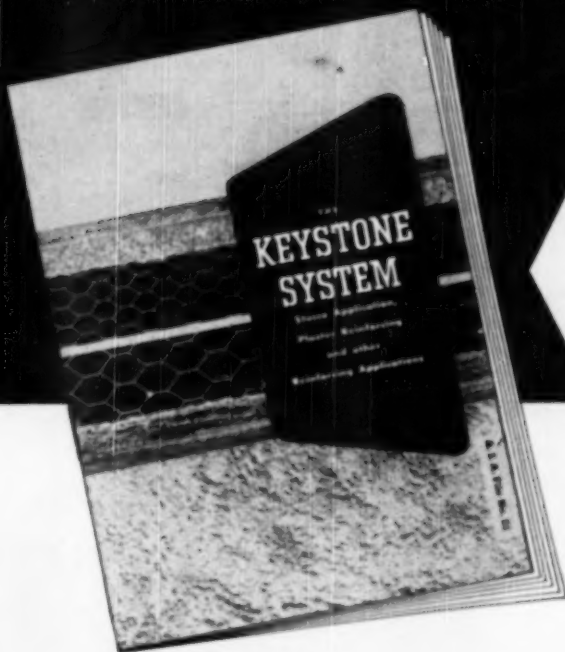
How to Protect Floors When Painting Frames



(Copying of Section Made from Leaflet in Building Paper.)

FLOORS can be protected when painting by using two sections of building paper. Cut to fit on each side of door opening, allowing plenty of overlap. When floor is covered in this manner it provides better protection as the paper adheres to the floor.—Submitted by Arthur N. Nelson, Kansas City, Mo.

This Valuable Guide Helps You Build Easy-to-Sell Houses



Just Out...

New, informative book tells how the Keystone System helps you build better houses at sales-appealing prices. Your copy is now available.

Yes, if you want to build attractive houses at lower cost... and still add the extra features that appeal to home buyers... let this book help you. It explains the Keystone System of Stucco Application—tells you how to build homes that answer the need for dur-

able, attractive, quality construction at lower cost.

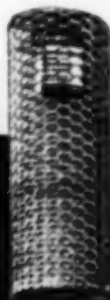
Besides, this book gives helpful information on the Keystone System of Plaster Reinforcing and other reinforcing applications. Write for your copy today!

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Manufacturer of Keymesh Reinforcing • Welded Fabric • Tie Wire • Nails

**Modern, Durable
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Keymesh

REINFORCING FOR STUCCO,
OVERCOATING AND PLASTER

"The most talked about



Rigid cast iron gives durability and quietness to this handsome single compartment, double drainboard Royal House Sink with its heavy coating of acid-resisting enamel.

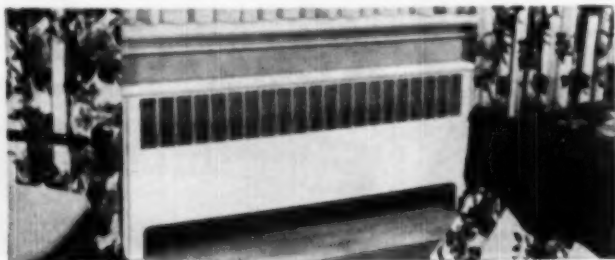


So bright, so easy to clean. These Clair de Lune Blue American-Standard fixtures are a housewife's dream. They retain their luster permanently, and they're so easy to keep sparkling clean. Constant, abundant heat is supplied by the neat, trim Arco Multitub Convector.



These genuine vitreous china American-Standard fixtures in Corallin can be counted on for lasting beauty, and for extra years of reliable service.

See how the handsome American Enclosure, with an Arco Multitub Convector inside, complements the colorful decorations of the room. Arco Multitub Convector come in a variety of widths and heights.



A space-saving unit, giving a lot of heat... that's what these homes get with Empire Gas Boilers. The Empire's smart appearance, quality construction and automatic operation make it a favorite in any home.

homes in Philadelphia,"

says the builder, Stenton Hills, Inc.,

"and **AMERICAN-Standard** products help make them so."

STENTON HILLS, a planned community of 500 new semi-detached homes in the Mt. Airy section of Philadelphia, is the talk of the town. These beautiful houses, designed to sell for \$16,590, have those extra features that make a house a home—including American-Standard Heating Equipment and Plumbing Fixtures.

In design, each house has such attractions as a handsome stone front, a large center hall, a picture

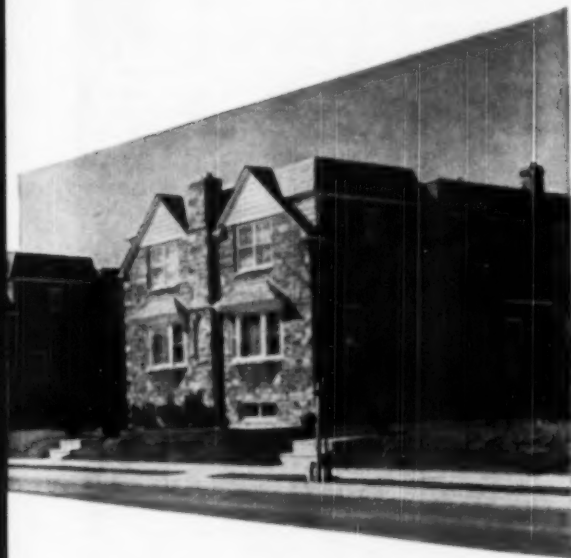
bay window, ten large closets, a basement powder room and a finished recreation room.

American-Standard products make a triple contribution to comfort and convenience in the Stenton Hills homes. The two bathrooms and powder room feature beautiful colored American-Standard Plumbing Fixtures. In the kitchen there's a handsome, durable Royal Hostess Sink. And the Empire Gas Boiler in the basement provides comfortable, even heat in every room through Arco Multifin Convectors.

Stenton Hills, Inc. says that American-Standard products were among the most popular features with prospective buyers and contributed greatly to the success of the Stenton Hills project.

American-Standard products add to the attractiveness—and the sales value—of any building. Their sound construction quality, backed by strong, consistent advertising, creates a wide public acceptance that lowers house selling costs. Whatever you are building, the right heating equipment and plumbing fixtures for the job can be found in the complete American-Standard line.

Get details about the complete American-Standard line from your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pennsylvania.



MORE AND MORE BUILDERS who use American-Standard Heating Equipment and Plumbing Fixtures are finding them strong selling points. The public knows that only the best products were used, and has confidence in the top quality of the whole dwelling.

LOOK FOR THIS



MARK OF MERIT



AMERICAN-Standard

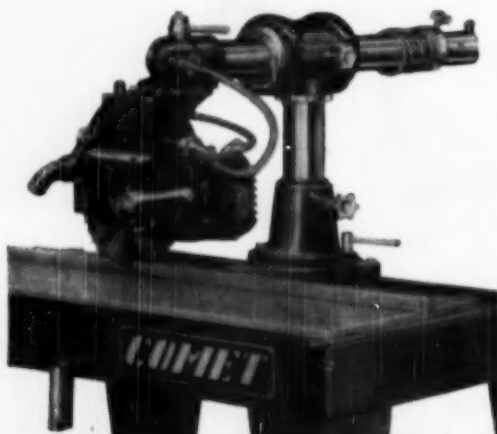
First in heating . . . first in plumbing

Serving home and industry

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A decade of swift progress to leadership in the power saw field. Saws that make every cut—with more power and precise accuracy. Built to work up a profit for owners in shop and field. Produced in several models to meet every need and price. Designed to devour work at the push of a button—and with maximum operator protection. And weather proofed to stand heavy, continuous field work. Highly mobile, trailer mounted, or table mounted for rigidity... These are Comets, bright stars in the power saw field. What is their record?... thousands of solidly satisfied owners to whom the name Comet means PROFIT! Write direct if there isn't a Comet dealer in your town.



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2029-33 Santa Fe Avenue, Los Angeles 21, California



COMETS cut quicker

Catalogs and HOW-TO-DO-IT INFORMATION

746—"THE TERMITE PRIMER"—12-page booklet issued by the Antimite Co., 5137 Southwest Ave., St. Louis 10, Mo., tells the story of the termite—how he can be detected and controlled. Based on a question-and-answer "formula," questions most asked by property owners are answered.

747—"REMOTE CONTROL WIRING"—booklet published by the Construction Materials Department of General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn., explains principles of new low-voltage lighting control system. Circuit diagrams are shown.

748—MAINTENANCE TRETTLES—Eight-page two-color catalog presents complete line of maintenance trestles adaptable to many types of maintenance work in schools, hospitals, hotels; used by painting and decorating contractors, builders and others with off-the-ground work. Complete specifications are given. Bil-Jax, Inc., Archbold, Ohio.

749—SURFACE METAL RACEWAYS AND FITTINGS—Wiremold Catalog and Wiring Guide No. 18 (pocket size) covers complete line of surface metal raceways and fittings, and lists several new fittings and developments. These include a new wire pulley, wall box connector, reducing connector and circuit breaker cover. The Wiremold Co., Hartford 10, Conn.

750—STEEL AND ALUMINUM BUILDING PANELS—36-page, 2-color catalog released by Detroit Steel Products Co., 3101 Griffin St., Detroit 11, Mich., features Fenestra type C-wall panel, Type D deck and floor panels, and acoustically-treated panels. Detail drawings, fire resistance ratings, methods of panel electrification and panel selection tables are presented.

751—UPWARD ACTING GARAGE DOORS—The Barcol Overdoor is described and illustrated in a new 12-page catalog issued by Barber-Coleman Co., 104 Mill St., Rockford, Ill. Radio control and electric operators are shown with specifications. Diagrams show building requirements and construction features.

752—PLASTIC-FINISHED WALL AND CEILING PANELS—Wood and marble patterns of Marlite modern plastic-finished wall and ceiling panels are colorfully illustrated in brochure offered by Marsh Wall Products, Inc., Dover, Ohio. Five wood and five marble patterns are shown, with suggested uses.

753—"CUT CONCRETE FORM COSTS with GPX" is title of 4-page brochure on GPX plastic plywood issued by the Georgia-Pacific Plywood & Lumber Co., 332 S. Michigan Ave., Chicago 4, Ill. Construction projects where material was used for concrete forms are illustrated.

754—"THE NEW HOUSE NEXT DOOR"—a 66-page report on new homes families are building, furnishing and equipping for their own occupancy is available from Better Homes & Gardens magazine, Meredith Publishing Co., Des Moines, Iowa. Listed in the index are sections on the kind of homes being built, location of building sites, building materials and equipment used, appliances, and indications of trends in architectural style.

(Continued on page 126)

8100 ALUMINUM WINDOWS

Webb Housing Project, Bronx,
New York. Alcoa Aluminum
used for 8100 windows manu-
factured by General Bronze
Corp. Owners: Equitable Life
Assurance Society of the U. S.
Architect: Leonard Schultz
Associates. Contractor:
Storatt Bros. & Egan.

MORE GOING IN EVERY DAY

More aluminum windows are going in new homes and apartments than ever before. And no wonder. They speed construction, cut down upkeep costs, never need painting. To turn rental income into profits, specify windows of Alcoa Aluminum. Available from leading manufacturers in all standard types and sizes. For information, write ALUMINUM COMPANY OF AMERICA, 1485F Gulf Bldg., Pittsburgh 19, Pa.

ALCOA ALUMINUM



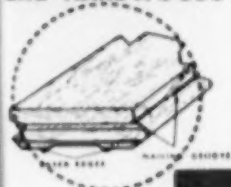
INSHOT • SHEET & PLATE • COUPLES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • CONDUIT & PERMANENT WELD COUPLINGS • FURNISHES • IMPACT EXTENDING
ELECTRICAL CONDUCTORS • SEWING MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FILL • ALUMINUM PIGMENTS • MAGNETISM PRODUCTS

Connor "Laylite" Maple and Birch Flooring in Cartons is something new in flooring. It has new retail sales appeal for You and Your Customers. You can price it per carton. And your customers like the idea of a price per carton plus the clean, dry appearance of flooring kept in cartons. Quickly and easily, they are able to figure the exact cost of flooring a particular area. No other flooring offers you the selling features listed below.

Write today for the complete information and prices on Connor "Laylite" Flooring. Discover for yourself why lumbermen like Mr. C. J. Schiek of Hilly-Forster Lumber Co. are so enthusiastic in their praise. It's the world's finest flooring — bar none.



**MIXED CARS —
PINE, HEMLOCK
and HARDWOODS**



- | | |
|--|--|
| <p>1 Carton keeps flooring clean and dry. It also keeps moisture content more uniform.</p> <p>2 Carton makes inventory easy—contents clearly marked for grade and state.</p> <p>3 Carton gives buyers exact cost of flooring 10 square feet.</p> | <p>4 Carton saves time in laying mixed lengths without breaking several bundles.</p> <p>5 Carton saves you money in reduced handling costs.</p> <p>6 The flooring in each carton is manufactured and graded under MFMA specifications.</p> |
|--|--|

CONNOR "LAYLITE" FLOORING IN CARTONS OR REGULAR LENGTHS IN BUNDLES

The Connor Lumber and Land Co.

Sales Offices, Marshfield, Wisconsin

P. O. Box 112-D

Telephone No. 3 or 418

Teletype—Marshfield No. 26

HILLY-FORSTER LUMBER CO.

One West Wisconsin Ave. • Marshfield, Wis. 54449

The Connor Lumber & Land Co.
Marshfield,
Wisconsin

February 1, 1950

Gentlemen:

Connor "Laylite" flooring represents another forward step in lumber marketing. As a retail lumberman, I am pleased to have the opportunity to sell this flooring. In fact, I have been selling it for some time. It is a truly profitable product to the customer to secure himself of a clean, moisture-free flooring inventory in cartons, and fixed prices.

This product was greeted with enthusiasm when put on display.

An excellent photograph of one of our trucks, laden with Connor "Laylite", ready for delivery.

Very truly yours,
HILLY-FORSTER LUMBER CO.

C. J. Schiek
C. J. SCHIEK, Manager

CJ:SM

Catalogs

(Continued from page 134)

755—ALUMINUM PRODUCTS—available from Reynolds Metals Co., Aluminum Div., 2500 S. Third St., Louisville 1, Ky., are listed by types in a new 53-page portfolio covering extruded shapes, embossed sheet, perforated sheet, plain sheet and plate, tubing and pipe, and other products for architectural use. Available to architects, designers, engineers, and other company officials who request it on company letterhead.

756—SLIDING CLOSET DOOR UNITS—Amwel steel door and frame units and sliding closet door units are described and illustrated in an 8-page brochure issued by The American Welding & Manufacturing Co., Building Products Div., Warren, Ohio. Sizes, uses, and specifications are given.

757—GASOLINE DRIVEN ELECTRIC PLANTS—"Electricity at your service for any purpose anywhere" is theme of 1950 electric plant catalog of D. W. Onan & Sons, Inc., 3623 Royalston Ave., Minneapolis, Minn. The 8-page, 2-color booklet covers complete line of gasoline driven electric plants, ranging from 260 to 35,000 watts, in all standard voltages, frequencies and phases.

758—ASPHALT TILE COLOR CLASSIFICATION CHART—designed to clarify various manufacturers' color designations of asphalt tile, lists 35 colors. For example, it shows that asphalt tile with buff as basic

color and mottled with white and brown is designated as CM-23 by Hachmeister-Inc.; C-755 by Hood Rubber Co.; C123 by Johns-Manville Corp.; C452 by Sloane-Blabon Corp.; C-747 by The Tile-Tex Div.; and C-51 by Uvalde Rock Asphalt Co. The same procedure is used with all 35 colors listed. Chart available from Asphalt Tile Institute, 101 Park Ave., New York 17, N. Y.

SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department

(June, 1950)

American Builder,

79 W. Monroe St., Chicago 3, Ill.

Please send me additional information on the following product items, or the catalogs, listed in this department:

Numbers

Name

Street

City State

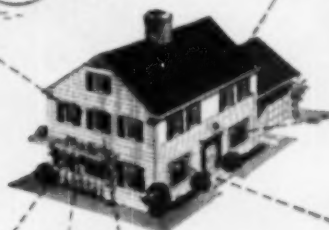
OCCUPATION*

* Please note that occupation must be stated if full service is to be given.

AMERICAN BUILDER

floor plan for living!

Take any room in the house . . . a Sloane-Blabon floor covering will make it more livable! For Sloane Quality Linoleum Products mean added beauty through "better design and truer color"—less work for homeowners because these floors are easier to keep bright and clean. And, there's a Sloane-Blabon floor covering for every need and specification. Write for further information.



floor coverings for every specification

- Inlaid and Marbled Linoleum
- Linoleum Tile
- Koroseal® Tile, Cove Base and Cove Molding
- Improved Asphalt Tile

- Resilient Enamel Floor Coverings
- Resilient Enamel Rugs
- Resilient Enamel Wall Coverings

For further information and samples, write Dept. B-2

SLOANE-BLABON CORPORATION
295 FIFTH AVENUE, NEW YORK 16, N. Y.



© B. F. Goodrich Company

**"I got a cargo carrier...plus a luxury sedan
when I bought my Kaiser Traveler!"**

says contracting-carpenter Joseph Goth, Chicago, Illinois



Rough work finished...and in just 10 seconds, you convert the Traveler into a lavish family sedan. You'd never know this beauty pays it's own way, during working hours.

See the

Kaiser Traveler

or the new

'51 Frazer Vagabond

world's most useful cars

"I needed both a new truck and a new sedan. But the cost ran pretty high. So when I saw the two-cars-in-one Traveler I bought it right away! I previously owned a Kaiser custom sedan...so I knew they were wonderful cars. But the Traveler is even better than I hoped!"

"I use it to haul lumber, millwork, tools and equipment to and from the job. And even with a huge load of building supplies, it handles like a sedan. In fact, it is a sedan too, for business and pleasure driving. For a car that really fills a carpenter's needs...the Kaiser Traveler hits the nail right on the head."

(signed) Joseph Goth

Yes, Kaiser Traveler gives you both cars you need, for the price of one! On this job, it hauls extension ladders and long lengths of lumber...tools, horses and power equipment. On the town, it's a proud six-passenger sedan. See your Kaiser-Frazer dealer now...and see why the Traveler is America's best carpenter's helper!

Kaiser • Frazer Sales Corp., Rm. 206L

Administration Bldg., Willow Run, Mich.

Gentlemen: I would like to know more about the Kaiser Traveler and/or the new '51 Frazer Vagabond.

name _____

address _____

city _____

zone _____

state _____

Westinghouse IS AHEAD



AHEAD WITH FIRST FROST-FREE REFRIGERATOR!

AHEAD WITH COMPLETE AUTOMATIC LAUNDRY IN 5 FEET OF FLOOR SPACE!

AHEAD WITH FIRST WESTINGHOUSE WITH FULL-ON BURNER!

You'll be Ahead, too, Mr. Builder . . . WHEN YOU FEATURE WESTINGHOUSE-EQUIPPED HOUSES!

In city after city, builders are finding that Westinghouse-equipped houses attract more people, sell more houses. They know the Westinghouse name stands for quality. That helps you, too, because most of the brand names of the quality materials you use are covered over

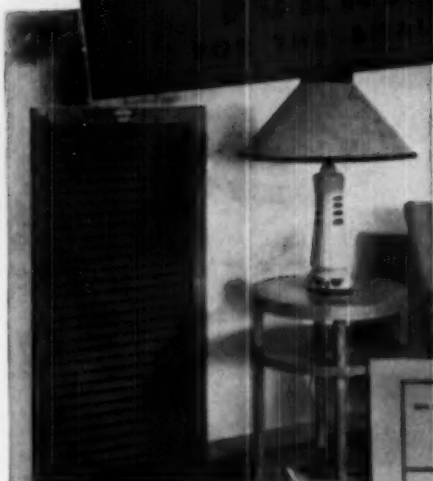
with plaster or paint. Call your Westinghouse Distributor today! Learn how you can turn houses into cash, faster!

WESTINGHOUSE ELECTRIC CORPORATION
Appliance Division • Mansfield, Ohio

YOU CAN BE SURE. IF IT'S Westinghouse



**NEW! DIFFERENT!
BETTER!
WINKLER**



WALL FURNACES

A sensational advance in automatic heating for the small home... completely in line with modern trends. Fits flush in the wall, saves living room space—smartly styled—finished in eye-pleasing color to harmonize with any decorative scheme.

Alive with comfort, economy and convenience features

Econo-Miser Burner • Circulating Fan • Fingerprint Heat Control • Radiant-Air Dual Heating • Heat-saving Baffle • Front easily removed for access to burner • Complete package ready to install.

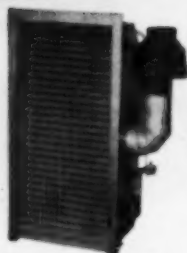
FLOOR FURNACES

Compare these features:

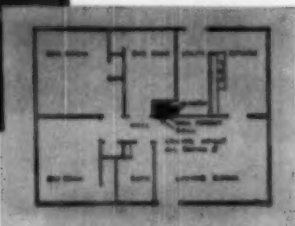
Forced draft for more efficient operation, automatically adjusting itself to various firing rates • Large warm air circulating fan speed automatically adjusted to burning rate • Larger heating surface and flue passes • Thermostatic control • Chassis mounted, entire unit removable for complete access. Adjustable burning rate—20,000 to 60,000 BTU with No. 1 oil.



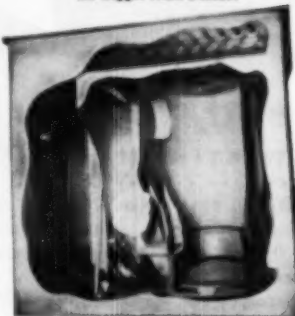
Tested and listed by
Underwriter's
Laboratories



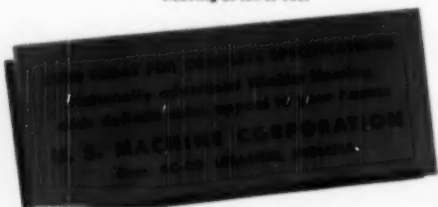
OIL OR GAS FIRED



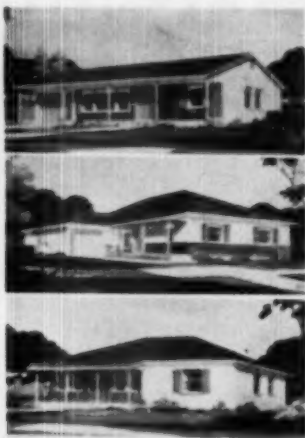
Wall Furnace fits in space
no bigger than a chest



A marvel of design for better
heating at lower cost



Project Larger Than Levittown Planned



RENDERINGS of proposed homes in Lakewood project are, from top to bottom, Models 28-A, 28-A, and Model 25-C. Homes have two and three bedrooms

Work on a 17,150-home project has begun in Los Angeles County, Calif. The project of two- and three-bedroom houses has a combined value of approximately \$136,000,000, and will be undertaken by a private building corporation composed of the firms of Ben Weingart, Louis Boyar and Mark Taper. Tichenor & Company is the exclusive sales representative.

So far the nation's largest single development has been Levittown on Long Island in New York, where 10,101 homes have been completed by Levitt & Sons, and where additional sites for about 6,000 more homes were recently acquired by this firm.

The new project, Lakewood, located just north of Long Beach, will have several business districts, schools and recreational areas, as well as homes, according to plans.

Two-bedroom homes in the project will range in price from \$7,575 to \$8,225, with monthly payments about \$46.98 and no down payments required for veterans. Three-bedroom homes will range in price from \$8,525 to \$9,075 with monthly payments about \$53.50. Several different floor plans and elevations will be used.

Features of the homes announced by the builders will include Wolmanized pressure-treated mud sills, No. 1 hardwood flooring over diagonal sub-floors, two coats of paint on interior walls, single and double attached garages, full cedar shingle roofs, 45-

(Continued on page 144)

AMERICAN BUILDER

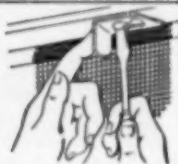
KEYSTONE FRAMELESS TENSION SCREENS



**EASY TO
INSTALL**

Install screens this new modern frameless way and eliminate making and fitting screen frames, painting and outside hardware. You will not only save money but cut screen installation time to a minimum this modern Keystone way. Builders report savings up to 25 minutes per window and at same time have given buyers the finest in insect screens. Write for new installation and measurement data and the name of nearest dealer today.

**NO SCREEN FRAMES to make or Fit . . .
NO PAINTING . . . NO OUTSIDE Hardware**



Round headed screw installed in top blind stop holds removable top bar bracket.



Catch at sill engages sill fixture. Note that fixture is easily adjusted for proper tension.

KEYSTONE *Sun Vita*

Keystone Sun-Vita is a fine mesh galvanized or aluminum screen wire imbedded in a solid sheet of water-proof clear plastic coating which admits over 60% of the sun's healthful ultra-violet rays. It retains the heat and keeps out cold—as flexible as window screening. It is available in 36" widths.



KEYSTONE METAL INSECT SCREENING

GALVANIZED STEEL WIRE SCREENING KEYSTONE Electro Galvanized and Enamelled Steel Wire Screening, made of specially selected analysis copper bearing steel, gives strength and rust resistant qualities.

QUALITY BRONZE INSECT SCREENING KEYSTONE Bronze Screening, both Bright and Antique finish, woven from highest quality commercial bronze wire of 90/10 analysis (90% Copper 10% Zinc Alloy) combines beauty, hardness, strength and resistance to atmospheric conditions.

ALCLAD ALUMINUM INSECT SCREENING KEYSTONE Alclad Aluminum Screening can be installed with confidence. Will not stain or discolor woodwork or masonry. Red rust is eliminated, appearance improved. Light, strong, durable, and pleasing to the eye.

Keystone Wire Screening complies with all requirements of commercial standard C5138-49 as issued by the United States Department of Commerce.

SEND
FOR DETAILS
AND PRICES
Today!

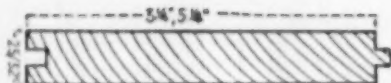
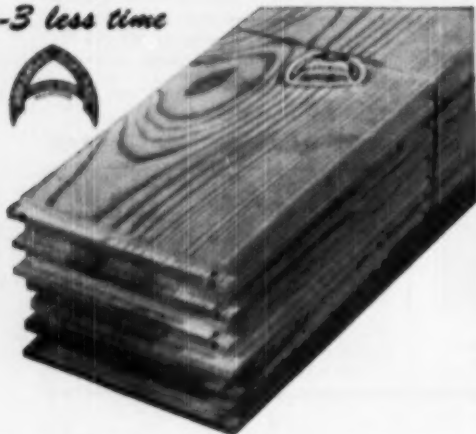
KEYSTONE WIRE CLOTH CO.
HANOVER, PENNSYLVANIA

Crossett

Center & end matched

Sheathing

for
a better job in
1-3 less time



Here's Why . . .

- No trimming at studs
- Accurate matching, goes on fast
- Kiln dried, bright stock
- Soft texture, nails easily, no splitting
- Maximum stiffness to sub-wall
- Strictly flush base for siding

Crossett sheathing bears the Arkansas Soft Pine trade-mark by which you may identify it at your lumber dealer's.

CROSSETT LUMBER COMPANY

CROSSETT, ARKANSAS

Rain or Shine— Weather Is No Problem

RAIN or shine, weather is no problem to builder F. C. McClanahan of Shreveport, La., who "controls" working conditions for his men with a tent.

The tent, large enough to completely cover a 63x33-foot home, is heated in winter to provide comfortable working temperature and make it possible to place concrete when desired. In the summer, McClanahan says, it provides shade from the sun.

Another advantage is in the publicity. McClanahan reports that interested people have come from all parts of



CONCRETE is placed with tent flap up in warm weather

the country to see one of his homes under construction. "Moreover," he says, "I can keep men working the year round by using the tent."

McClanahan, who builds about 30 homes a year on contract and to sell, rents the tent from the Shreveport Tent



LUMBER and table saw are kept under end of tent, left

and Awning Co. for \$250 a month. Most of his homes, without basement, are conventionally built on a concrete slab floor. Over a sand fill, he uses three plys of 15-pound felt mopped with pitch, then places a 4-inch concrete slab reinforced with wire mesh.



COMPLETED McClanahan home emerges from tent

QUALITY CONTROLLED

MA-TI-CO
ASPHALT TILE
FLOORING

*assures enduring beauty
at low cost*

MA-TI-CO SPECIFICATIONS

COLORS—STANDARD ASPHALT TILE

Full Cartons Only 9" x 9" Sizes 16", 3/16" Gauges

STYLE	COLOR NO.	COLOR DESCRIPTION
Group A	A 501	Black
	A 503	Brittany Red
	(Both available in 18" x 24" Borderstock)	
Group B Marbled	B 401	Black with White Marble
	B 402	Black with White and Green Marble
	B 403	Black with White and Red Marble
	B 404	Brittany Red with Gold and Red Marble
	B 405	Brittany Red with White and Red Marble
Group C Marbled	B 406	Brittany Red with White and Gold Marble
	C 420	Red with Gold and White Marble
	C 421	Gray with White, Black Marble
	C 422	Gray with White, Brittany Red Marble
	C 423	Orange with White, Black Marble
	C 424	Green with White Marble
	C 425	Tan with White and Brittany Red Marble
Group D Marbled	C 426	Marble with Brittany Red and White Marble
	C 427	Bathsheba Gray with Black and White Marble
	C 428	Light Green with Green and White Marble
	D 100	Ivory with Red and Gold Marble
	D 101	Light Blue with White Marble
	D 102	White with Green Marble
	D 103	White with Black Marble
	D 104	White with Blue Marble
	D 105	Yellow with Tan and White Marble
	D 106	Bright Red with White Marble
	D 107	Yellow

COLORS—PETAL TONES

COLOR NO.	COLOR DESCRIPTION
P 201	Petal Tone Yellow
P 202	Petal Tone Rose
P 203	Petal Tone Blue
P 204	Petal Tone Green
P 205	Petal Tone Pinky

GREASEPROOF TILE

Manufactured in all B group and C420, C423, C426.
Full cartons only. 9" x 9" sizes, 16", 3/16" gauges.

PACKING DATA

For Standard and Greaseproof Tile

Size	1/8"		3/16"		Weight Per Carton
	Pieces Per Carton	Sq. Ft. Per Carton	Pieces Per Carton	Sq. Ft. Per Carton	
9 x 9	80	45	54	30.375	53 lbs.
12 x 12	45	45	30	30	55 lbs.
18 x 18	18	54	12	36	65 lbs.
1 x 18	216	27	144	18	33 lbs.
1 1/2 x 18	144	27	96	18	33 lbs.
2 x 18	96	24	64	18.3	33 lbs.

Wire or write for complete details and Mastic sample color chart, if there is no Mastic distributor near you.

GET TO KNOW MA-TI-CO!

Write today for Ma-Ti-Co literature and sample color chart!



that's why

Levitt & Sons

**specify 3 1/2 MILLION
Sq. FEET of MA-TI-CO in 1950**

Levitt selects Ma-Ti-Co for the flooring of every room in 4428 luxury and economy-type homes in Levittown and Roslyn, Long Island—additional proof of Ma-Ti-Co's high quality.

A special Ma-Ti-Co formulation helps reduce costs through fast, easy, quick-seating installation... assures greater resistance to time and wear... permits a complete line of rich, clear colors—in solid tones and marbled patterns—including 5 new pastel "Petal Tones." Precision testing maintains a constant high quality that meets Federal specifications for flexure, indentation, curling and impact.

Whatever your requirements—large or small—you can profit by Ma-Ti-Co's proven quality.

MASTIC TILE CORPORATION OF AMERICA

Department 58
Burlington, N. Y. • Long Beach, Calif.

SPEED FASTENING AT THE SPEEDROME!



● Here's another typical money-saving fastening triumph for DRIVE-IT—fastening seat brackets at the Grand Rapids Speedrome.

Wherever steel or wood must be fastened to concrete, steel or other hard materials there's a spot for DRIVE-IT to save you money. Reports of 75% to 85% savings over old-fashioned methods are common. With Drive-It, a drive-pin plus a power charge does the job in a split-second—and *better* than the old "dig and drill" method.

We can't begin to tell you the whole story here, but do yourself a favor and send us the coupon below. It will be money in *your pocket!*

Distributors Coast to Coast

POWDER POWER TOOL CORPORATION

0713 S. W. Woods St., Portland 1, Oregon
(Canadian Distributor: Arma Power Tool Co., Ltd.
Foot of McLean Drive, Vancouver, B. C.)

ONLY THE DRIVE-IT "300" GIVES YOU ALL THESE FEATURES

- ✓ Controlled power with one power charge
- ✓ Positive, 3-way safety
- ✓ Uses flangeless drive-pins
- ✓ Permanent, adjustable safety pad
- ✓ Semi-silent operation
- ✓ Automatic extension barrel

U. S. Pat. Nos.
2,465,171
2,465,172
Other patents
pending



DRIVE-IT "300"



DRIVE-IT "230"



Get the full story on DRIVE-IT

Name _____
Company _____
Address _____
City _____ State _____

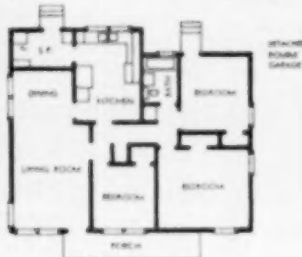
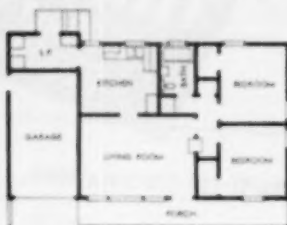
POWDER POWER TOOL CORPORATION, 0713 S. W. WOODS STREET, PORTLAND 1, OREGON

Project Larger Than...

(Continued from page 140)

000 and \$7,000 B.T.U. dual floor furnaces, and artistic wall paper.

Home buyers in the project, according to present plans, will have the op-



PLANS of proposed Lakewood homes.

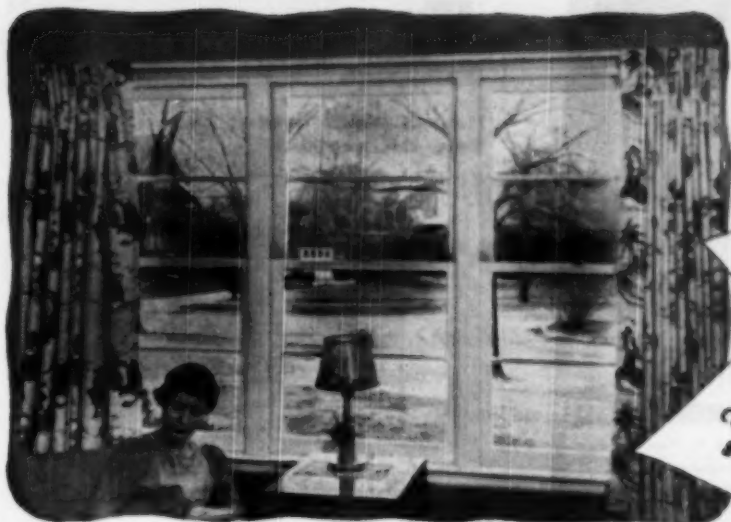
portunity to purchase Norge eight-cubic-foot refrigerators, Bendix washers and O'Keefe & Merritt gas ranges on an optional basis, with the price to be included in the mortgage. It is planned to install Waste King garbage disposal units in the homes.

Easier To Own Home Than To Pay Landlord

A man making \$5,000 a year with a wife and two children is in a position to purchase a \$12,500 home, and, on a joint return, would pay approximately \$226. in federal income taxes.

If the same family rented, reports the National Association of Home Builders, the income tax would be \$358.60. This is a saving of \$122.43 every year for the homeowner.

AMERICAN BUILDER



They'll say **"GOOD-BYE"** to bills like these
when you specify **SILENTITE Windows!**

Year after year, home-owners will thank you for selecting Silentite Windows—because of the bills they *don't* have to pay!

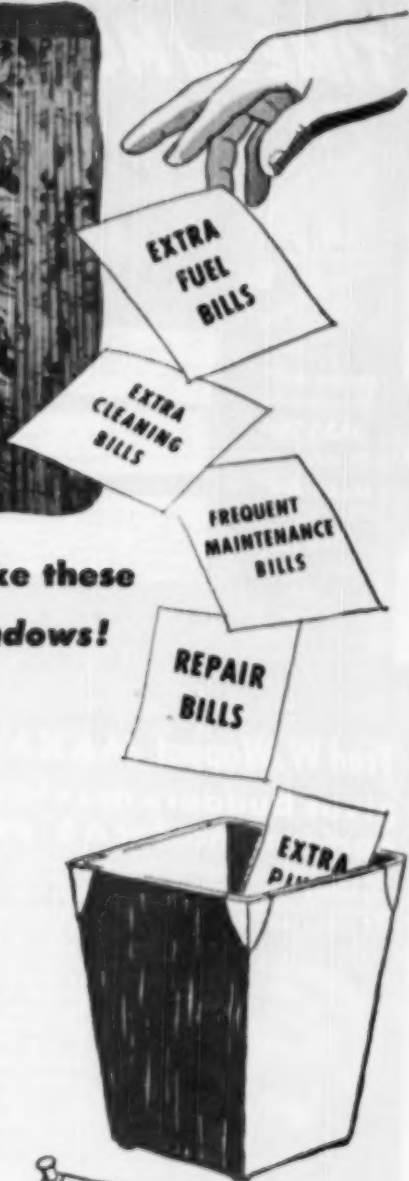
Gone forever are the extra fuel bills caused by heat-leaking, draft-inviting windows. That's because Silentite Windows are *insulated*—made with patented "floating" weatherstrips and many other weathertight features. Silentite is a Wood Window—which means extra insulating value.

There are fewer cleaning bills, too, in a house with Silentite Windows. Dust stays out—draperies, walls and furniture need less cleaning.

Silentite Windows are designed and built to give a lifetime of smooth operating service. They take and hold paint lastingly. They cannot rust or corrode. They do not encourage condensation.

We believe Silentite is today's most *modern* window—and invite you to get all the facts. It is also made in case-ment styles.

Curtis makes a complete line of architectural woodwork for the modern home. Make your next home "all Curtis."



Curtis Companies Service Bureau
AP-65 Curtis Building
Clinton, Iowa

Gentlemen: Please send me book on Silentite Windows, including comments from () architect, () contractor, () prospective home builder, () student. (Please check above.)

Name.....

Address.....

City.....State.....

TIME and MONEY



Model A-9"
3" capacity

\$135.00

with metal case

Model A-8"
2" capacity

\$115.00

with metal case

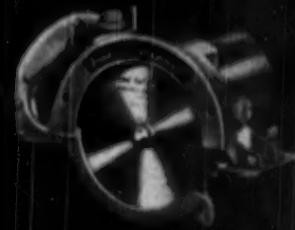
"... use my Fred W. Wappat Saw to cut lumber, boro, cotta tile, and cinder blocks. It's really a time-saver."
—Contractor

"... my Fred W. Wappat Electric Hand Saw has paid for itself many times!"
—Contractor-Builder

"We have found Fred W. Wappat Saws to be completely trouble-free... powerful... lightweight... easy to handle—on levelable aid in speeding up production."
—Prof. B. G. Mfr.

Fred W. Wappat MAXAW gives builders maximum performance for a 6" saw!

The MAXAW features blade depth adjustment $\frac{1}{4}$ " to $2\frac{1}{4}$ " and built-in bevel adjustment 0° to 45°. Has rigid, sturdy tip fence. The MAXAW cuts to full $2\frac{1}{4}$ " depth cuts 17½" at 45° angle. Even though blade is filed many times, the MAXAW cuts 2" lumber. There are no extra gadgets—the MAXAW is a complete electric hand saw. That's why it's called the 6" saw with Big Saw features!



Ask Your Dealer to Demonstrate Any of These Tools!

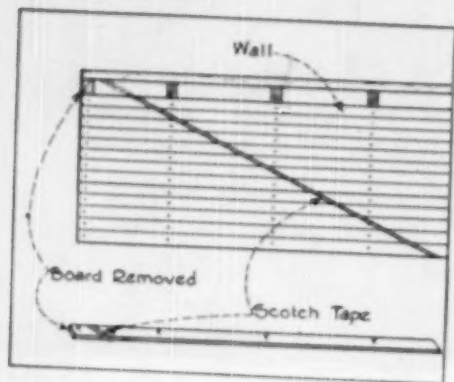
Fred W. Wappat, Inc.

135 Valley St., Mayville, N. Y.
(on Chautauque Lake)



TECHNICAL GUIDE for Builders and Craftsmen

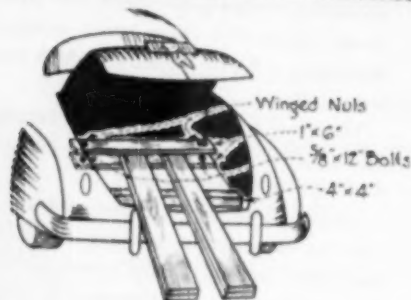
How to Mark Boards for Easy Replacement



The problem of replacing surface boards in their identical position was solved by using ordinary Scotch tape. The tape was fastened diagonally to all the boards, starting at the upper left hand corner and ending at the lower right. A sharp knife severs the strip between each board. Later when the boards are replaced it is an easy matter to nail them back in correct order by placing them so that the diagonal line of Scotch tape appears unbroken.—Submitted by Herbert E. Fey, New Braunfels, Texas

HOW TO DO IT • HOW TO DO IT

How to Carry Lumber in An Automobile



An arrangement in the trunk of car for emergency hauling of lumber and other material is essential for the small builder. This can be accomplished by drilling two 3/8 inch holes in the floor of the trunk compartment and insert two 3/8 by 12 inch bolts from below. These should be placed as far apart as the width of the trunk will permit. Two pieces 1 by 6 are placed over bolts with holes drilled two inches from outer edges. Winged nuts are applied to bolts. Lumber is inserted between boards and winged nuts tightened. A 4 by 4 inch board is placed at outer edge of trunk to keep lumber from sagging.—Submitted by Ray Harrison, Fort Qu'appelle, Sask.

Walnut Park Homes offer you HEATILATOR* FIREPLACES!

Each of these beautiful all-brick homes contains a genuine heat-circulating Heatilator Fireplace! Heats entire room, cuts fuel costs! Located in the newest and best suburb, Walnut Park Homes give you three large roomy bedrooms, two tile bathrooms, full base-

ment with automatic gas heat, light airy kitchen with electric range and 9-foot refrigerator. Come out today and see why this is the best home buy on the market!
Open daily 9 A. M. to 9 P. M., 1636 Hopewell Boulevard.

YOUR NAME HERE

RUN ADS LIKE THIS - AND MAKE BUYERS COME A-RUNNING!

● Every home buyer wants a fireplace! Give them one that circulates heat and saves fuel costs! It's something really different that you can offer prospects at practically no extra cost to you!

1. **Assures faultless operation.** The Heatilator Unit is a scientifically designed, heavy-duty steel form around which you can build any style fireplace. It assures correct construction even by inexperienced masons and eliminates common faults that cause smoking.

2. **Saves you time and money.** Makes fireplaces easier to build, yet adds little or nothing to the total cost because it's a complete fireplace unit from floor to chimney flue — ready to install. Mason saves time, labor and materials because designing is all done for him. You save valuable time because you don't have to supervise the job as closely.

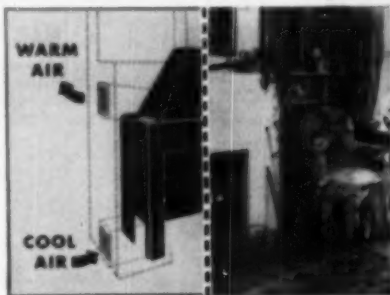
3. **Circulates heat, saves fuel.** It takes heat usually wasted up the chimney — circulates it to every corner of the room — even to adjoining rooms. On cool Spring and Fall days, furnace operation is unnecessary. In mild climates, it's all the heat needed.

4. **Helps you close sales faster.** With customers looking for real quality features in today's market, here's a feature with dramatic sales appeal. It can be quickly demonstrated to the prospect. And he'll be intrigued because he has seen Heatilator Units in his friends' houses and has also been seeing Heatilator national magazine advertising for twenty-two years.

Put these Heatilator Fireplace "Plus Values" to work for you in today's competitive market.

Heatilator Fireplaces are sold by all leading building material dealers. Accept no imitation. Look for the Heatilator name on the dome and on the damper handle. Heatilator, Inc., 656 E. Brighton Ave., Syracuse 5, N. Y.

*Heatilator is the reg. trademark of Heatilator, Inc.



HEATILATOR FIREPLACE

Closes Sales FASTER



Follow these
signs to profitable

BUILDING CONTRACTS!

Your big-profit building contracts are right at your finger-tips when you use **DODGE REPORTS**. You are told **WHERE** to go . . . **WHO** to see . . . **WHAT** to talk about to get these jobs! And you can have this information for any area you specify, any type of construction, or any stage of the construction work.

You get profit-making facts that show you the *active* prospects for building contracts such as —

new apartment buildings,
banks, hospitals, schools,
churches, theatres, homes,
factories

—In fact, every type of *new* construction offering you profitable job opportunities.

Thus, with **DODGE REPORTS**, you can be first in the *right place*—at the *right time*; you know *what* type of materials will be needed—who is involved in each project (name of owner, architect, engineer, contractor) — *when* the plans will be ready for figuring and when bids must be submitted.

DODGE REPORTS save you time, save you "leg work." They enable you to base your estimates upon known facts . . . time your bidding . . . close deals at the proper moment for effective results.

Let us show you, without obligation, how **DODGE REPORTS** can help you grasp these profitable building contracts.



MAIL THIS COUPON

AB-6-30

YES—I want to know about the profitable opportunities in **New Construction**. Without obligation, show me how I can use **DODGE REPORTS** in my business. (I do business East of The Rockies.)

Name _____

Firm _____

Address _____

F. W. DODGE CORPORATION

Construction News Division

119 West 40th Street, New York 18, N.Y.

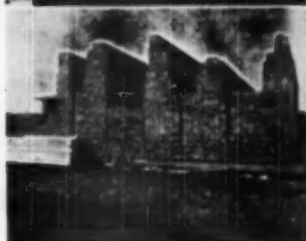


Handling 750,000 Feet

(Continued from page 117)

owner consumer trade. This is a much smaller, but at the same time, is a much more diversified operation than the main yard. Coal and fuel oil are also included in the business here.

Joseph E. Haenn, president of the firm, is a son of the founder, Geo. J. Haenn, who established the business

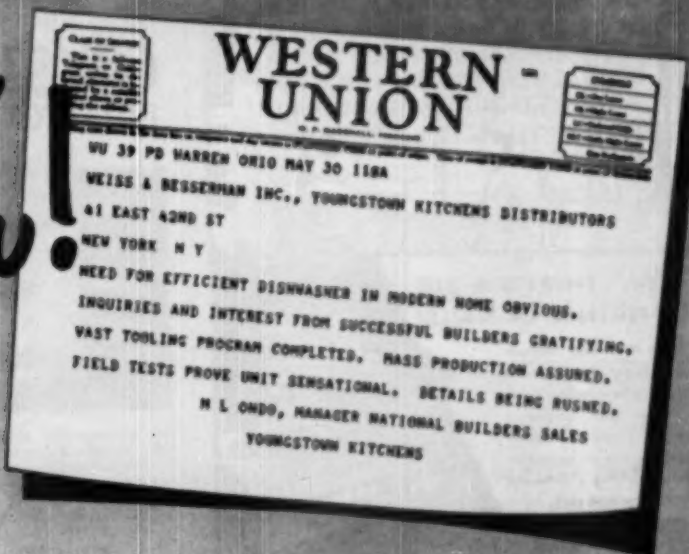
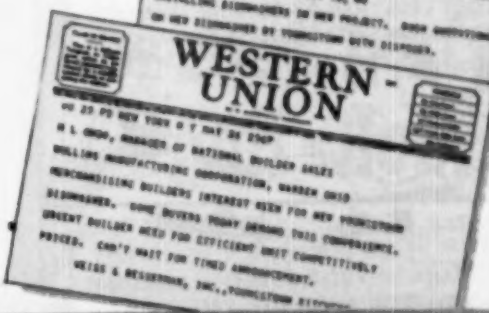
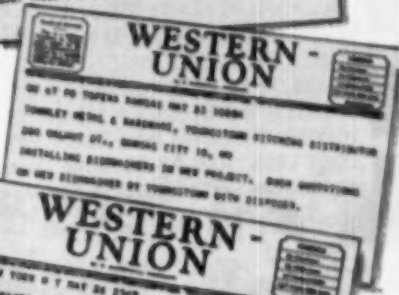
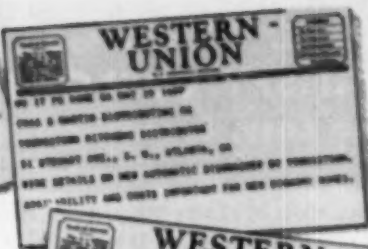
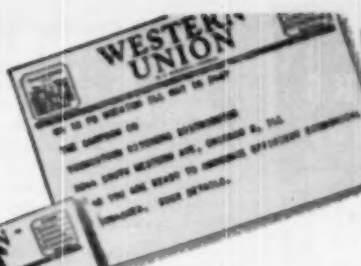


LUMBER shipped in green is piled on sticks until it is thoroughly dried, ready for use. Another method of piling lumber to keep it dry is illustrated here. No sticks are used, but each piece is placed on inch or so away from the next one thus permitting air to circulate throughout the pile. When piles get unusually high, pieces are left projecting at regular intervals to form steps so workmen can reach the top without a ladder or the risk of slipping from the side of lumber pile

in 1889, John A. Wiedmann is secretary. Both of these executives are strong believers in the importance of their company rendering the utmost in service and quality if it is to remain successful. They are not afraid of the price cutters because they are confident that regardless of price, if materials are not delivered on time and are not of good quality, the customer will not be satisfied.

To **eliminate**
 about the year's
 hottest
"Sales-Appeal"
Kitchen Appliance...

...here's the
Answer!



 **Youngstown Kitchens**
 MULLINS MANUFACTURING CORPORATION, WARREN, OHIO
 World's Largest Makers of Steel Kitchens

BUILD PRESTIGE . . . SATISFY CUSTOMERS This Easy, Economical Way

BILL, YOU'LL BE GLAD I SPECIFIED NICHOLS NEVER-STAIN ALUMINUM NAILS FOR YOUR HOME. THEY WON'T RUST LIKE ORDINARY NAILS. THEY WON'T STREAK OR STAIN PAINTED SIDING OR CAUSE SIDING TO LOOSEN THROUGH NAIL RUST. YET THEY COST LESS THAN \$3.50 MORE THAN ORDINARY NAILS FOR YOUR FIVE-ROOM HOUSE



ONE YEAR
LATER

MR. LEE, I WANT TO PERSONALLY THANK YOU FOR USING ALUMINUM NAILS ON MY HOME. ONE OF MY NEIGHBORS HAD TO REPAINT HIS HOME LAST WEEK BECAUSE OF RUSTED SIDING. COST HIM \$300. MY PLACE LOOKS GOOD AS NEW - THANKS TO YOU AND NEVER-STAIN ALUMINUM NAILS!



**Yes! THERE'S A BIG
DIFFERENCE IN NAILS!**

Nichols Never-Stain Aluminum Nails are etched from head to tip for greater holding power . . . drive easy . . . lighter to carry . . . and cost less to apply because no counter-sinking or puttying is necessary! Billions have been used.

A WIDE VARIETY OF
TYPES AND SIZES

NOW PACKAGED FOR THE JOB!

• Aluminum Roofing Nails • Wood Siding Nails • Casing or Sinker Head
• Asbestos Siding Nails • Back Lath Nails • Shingle Nails • Asbestos Shingle Nails • Cedar Shake Nails • Driveway Board Nails • Roofing Nails with or without Bar-Lex neoprene washers



NICHOLS WIRE & ALUMINUM CO.

ALUMINUM IS NOT A SUBSTITUTE!

Portland Cement Expands Facilities

The new \$3,000,000 research and development laboratories of the Portland Cement Association, recently completed near Chicago, are said to be the largest in the world devoted exclusively to research on cement and concrete. The two laboratory buildings, joined by a covered walkway, provide approximately 98,000 square feet of usable floor space. They were built to replace and increase (by approximately three times) the Association's former research facilities in Chicago.

To construct the main building of architectural concrete, 530 piles with an average length of 35 feet were driven, and a total of 502 tons of improved deformed bars complying with current ASTM specifications were used. Wall steel for the buildings consists of two rows of one-half-inch-round bars on 12-inch centers in both directions. Temperature steel in concrete slabs consists of one-half-inch-round bars on 12-inch centers at right angles to the main steel. Control joints are provided at a minimum of every 22 feet in all walls.

In addition to the new laboratories the Association maintains field exposure laboratories, a staff of fellowship scientists at the National Bureau of Standards, and numerous laboratories dispersed throughout the United States. It also cooperates in several of the more than 265 different research projects involving cement and concrete being carried on in engineering colleges and private and governmental agencies.

Results of the Association's scientific research are made available to the public as soon as is practicable, and it is the Association's policy that patentable inventions developed by it be promptly and freely dedicated to the public.

CRYSTAL SILICONE WATER REPELLANT PROTECTS THIS BUILDING



This administration building of Concrete, Inc., St. Louis, of Monolithic reinforced concrete, is protected by CRYSTAL against the harmful effects of water for years to come.

CRYSTAL actually penetrates to prevent moisture and water damage—gives two important benefits—

1. Original Beauty Retained—Invisible after application, CRYSTAL does not change the color or surface texture . . . makes surfaces stainproof and prevents efflorescence.
2. Materials Last Longer—CRYSTAL repels water throughout entire depth of penetration . . . provides lasting protection to all man-made masonry and most natural stones.

ONE COAT OF CRYSTAL is all that's need, applied at any temperature . . . saves money . . . saves time on the job!

Send for your free copy of "Exterior Masonry Waterproofing Manual".

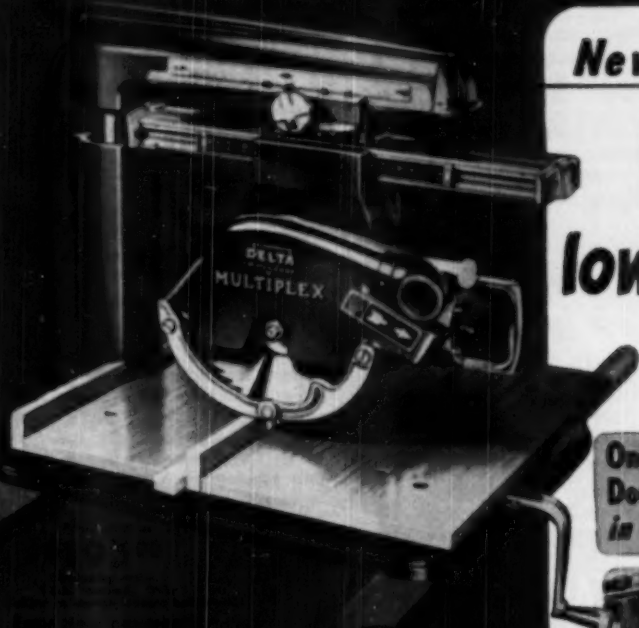


WURDACK CHEMICAL COMPANY

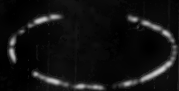
4956 Fyler Ave., St. Louis 9, Mo.



A SAFER RADIAL SAW



10. No other saw has these 2 fully-usable 360° radial movements above the table!



New **DELTA®**
MULTIPLEX®

low-cost, portable job shop!

Only Delta Multiplex—with exclusive Double Radial Action—has safety built in to protect you in all these ways!



1. Table fully supports your work — saw stays on table for entire stroke.



2. Saw always remains on table — even when flipping wide panels in half.



3. Your hands safely away from the motor, when adapting, etc.



4. Tilting handle is right up front — you crank easily, quickly, safely.



5. All levers, locks, degree scales are aim up front — you set up faster.



6. Cutting in "ventralized" in a common arm — you're always safely balanced.



7. Motor start-stop switch is always handy — right at your fingertips.



8. Automatic safety guard folds down — you're always protected.



9. Saw works from one end of table — you're always safely balanced.

Only Delta Multiplex gives you all these safety features at no extra cost!

Makes profits on every cut from collar to roof. Often pays for itself on one job!



Learn more about Delta Multiplex these 3 ways:

FREE MOVIE!

Sound—Action—Color!
Ask your dealer to show you this film.

FREE DEMONSTRATION!

Ask your dealer to demonstrate Delta Multiplex in action.

FREE IDEA BOOK!

10 pages showing unlimited uses of Delta Multiplex. Send coupon for your copy.

TEAR OUT COUPON AND MAIL TODAY!

Power Tool Division
ROCKWELL MANUFACTURING CO.
4340 E. Vienna Avenue, Milwaukee 17, Wisconsin
Send me now Delta Multiplex catalog, "Unlimited Applications"

Name

Title

Company

Address

City State



BONDEX COLORS

CEMENT PAINT

and decorates all types of masonry walls. Comes in white and 12 colors—all sunfast and non-fading. Mix BONDEX with water and it's ready for use. It adds beauty and salability to any building.



AND PROTECTS

against moisture, erosion and disintegration. Due to unusual surface-sealing and long-wearing qualities, BONDEX adds years to the life of any structure—pays for itself in protection.

IN ONE TREATMENT

OUTSELLS ALL OTHER
CEMENT PAINTS COMBINED

BONDEX users are BONDEX boosters! That's why it's the best-known, best-accepted brand on the market. When you specify BONDEX, your clients know you're using the best. Try it, soon!

Bondex is Best for All Types of
Masonry, Indoors and Out



WALL CRACKS disappear with BONDEX HYDRAULIC CEMENT. It mixes rapidly. Molds permanently.



FLOOR-LINE CRACKS are easily filled with BONDEX HYDRAULIC CEMENT. No costly digging.



MORTAR JOINTS are pointed with BONDEX HYDRAULIC CEMENT. Sets hard and stays put.



**USE BONDEX
HYDRAULIC CEMENT
TO STOP LEAKAGE**

THE REARDON COMPANY

St. Louis 6, Chicago 9,
Los Angeles 21, Bayonne, N. J., Montreal 1

Simplified Methods . . .

(Continued from page 119)

in two days, using four or five men. From this point on, all work, including heating, wiring, plumbing, insulating, siding and interior wall covering, is done conventionally. Interior walls are covered with U. S. Gypsum Co. metal lath, one brown coat and a smooth trowel coat of plaster. Plumbing fixtures used include American Radiator and Standard Sanitary Co., Kohler Co., and Richmond Radiator Co. Warm air furnaces used are Sunbeam, by American Radiator and Standard Sanitary Co., and Moncrief units, by the Henry Furnace Co. Roof covering is made by The Ruberoid Co.

Though the Tri-Level and the ranch style homes are more popular for Cox, he does not limit his work to these two designs. His higher priced home selling for \$20,000 without lot has a 30 x 60-foot foundation and a two-car garage. This home has six rooms and two baths. The main bath and shower stall have Vitrolite walls and tile floors. The kitchen has a picture window, planting box, Vitrolite walls, exhaust fan and snack bar. The living room features a marble fireplace and picture window, and the basement has a recreation room with fireplace, billiard room, laundry room, furnace room and card room. The entire house is insulated. A disappearing stairway to attic storage is provided.

How To Install Structural Glass Panels In Bathroom

Ready-built Carrara glass panels are securely mounted at the factory on plasterboard. Certain sides of the plasterboard extend beyond the edge of the Carrara glass, providing a rim or flange, of plasterboard which can



AFTER tub is leveled, place roll of mastic around rim, and butter studs with mastic before setting glass panels

(Continued on next page)

Structural Glass...

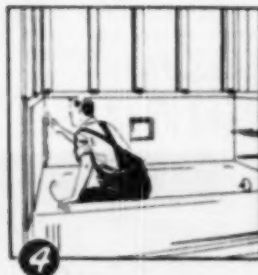
be fastened in place. Holes through the glass for plumbing pipes, soap dishes, etc., are all drilled at the factory as needed before the panels are shipped on the job. Thus, when the package arrives, the panels can be installed in a bathroom quickly, in four steps:



SET plate at back of tub first, then nail through plasterboard flanges and use the special clips supplied for job



REPEAT this procedure with end panels. Let plasterboard extend beyond tub to next stud. If wainscot is 48 inches high, follow this procedure for next course



CLEAN glass and fill joints carefully with painting compound supplied to insure waterproof installation.

Pictures and data courtesy of Pittsburgh Plate Glass Co.

JUNE 1950

NOW! Save 2 whole steps on Dry-Wall jobs

with **DRAMEX** INTERIOR FINISH

Saves Time! Saves Work! Saves Money!



1. NO MORE SANDING!

With amazing new DRAMEX you don't have to sand cemented joints before applying the final surface coat. DRAMEX hides uneven spots and blemishes... gives NEW, beautifully colored walls in one easy coat.

2. NO SECOND COAT

Just one coat of DRAMEX does the complete decorating job and gives you beautiful walls that look like lovely plaster. DRAMEX is available in 8 attractive decorator colors and white.

DRAMEX Resurfaces Cracked Plaster Walls, Too!

Fills cracks, mends small breaks, gives "living room" walls to any room, all in one coat. Comes in 8 popular shades and white. Many decorative finishes possible. Use DRAMEX on your next house. On sale most everywhere BONDEX is sold.



For Best Results
in "Dry-Wall"
USE
**REARDON'S
JOINT CEMENT
and REARDON'S
JOINT TAPE**

Reardon's Joint Cement mixes and spreads easily, won't burn through or discolor finish coatings. Reardon's Joint Tape guides smoothly, sets firm, won't wrinkle under the knife. For smooth, firm joints in plasterboard or wallboard use both!
IN 25-LB. BAGS AND 5-LB. PACKAGES
plus combination package containing a 250-ft. roll of perforated paper tape and enough joint cement to run and bed this tape. Order now.

THE REARDON COMPANY

St. Louis 6, Chicago 9, Los Angeles 21, Bayonne N. J., Montreal 1



McKINNEY

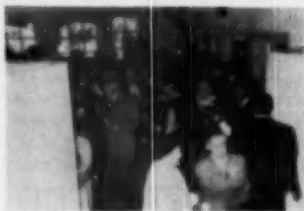
MANUFACTURING COMPANY

1400 Metropolitan St., Pittsburgh 33, Pa.



Over 30,000 Attend

Wichita Home Show



CROWDS jam Registration desk at Wichita Home Show to visit the 124 exhibits

Over 30,000 people saw 124 exhibits at the Greater Wichita Home Show held March 29 to April 2 in the Wichita (Kansas) Forum. Object of the second annual non-profit show, sponsored by the local Chamber of Commerce, is to encourage home ownership and pride in building and maintaining a home with the latest materials, equipment and building know-how. Exhibits and lectures were planned to that end, providing assistance to those planning to build or buy.

Stephen H. Howbert, show manager, said 5,000 saw the show on the opening day—1,000 above the 1949 home show's opening day attendance. Feature exhibit was a full-size 6-room ranch style home, built complete to the last detail, on the second floor of the Wichita Forum. Builder Homer Mosley who erected the house reported orders for 200 duplicates of the home as a result of the show. To remove it after the show Mosley estimated a materials loss of 5 per cent.

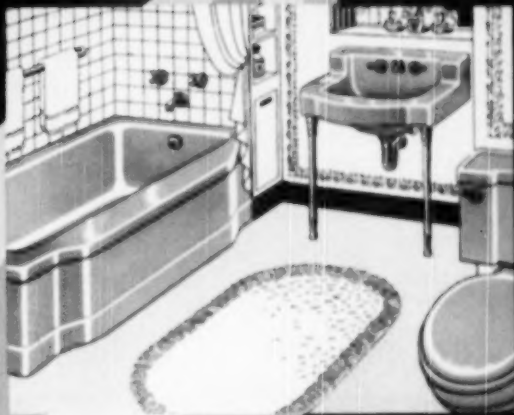
Elizabeth M. Anderson, prominent midwest building materials jobber and president of the Wichita Building Materials Co., Inc., expressed enthusiasm at the show's success. Her summary was generally the consensus of all exhibitors: many sales, and numerous contacts for later follow-up. Howard M. Van Auken, Chamber of Commerce member who offered the idea to Wichitians, says another and larger show will be held next year, and that the dates are already set—March 28 to April 1.



HIGHLIGHT of Wichita Home Show was this 6-room ranch style home built complete on second floor of Wichita Forum building



4 more ways to make sales
and win customers today!



10 SET
\$4.95

SANDSTONE

SKY BLUE

IVORY

SEA GREEN

Over 100
years of
experience
in the
building
business
for excellence
in
design, engineering
and manufacturing.

BRIGGS *Beautyware*

in color... the fastest sales-builder
in the building business

*10% additional charge for colored-ware applies to complete sets including Briggs brass fittings.

COPYRIGHT 1966 BRIGGS MANUFACTURING CO.

Everybody wants bathroom fixtures in color. Surveys prove it! Briggs sales prove it! For Briggs is doing something no other plumbing ware manufacturer has ever done before... offering colored fixtures at only 10% more! Not just any color—but four pre-selected colors with the greatest eye appeal, the quickest color appeal. See for yourself how much easier, faster, more profitable they can make your business. Order Briggs colored fixtures to sell Briggs Mfg. Co., 3001 Miles Ave., Detroit 17, Mich.



Clipper LEADS AGAIN WITH A NEW INVENTION THAT CUTS BLADE COSTS

DIAL-A-CUT and SAVE-A-BLADE

SAVE-A-BLADE DIAL *Properly Cushions* BLADE PRESSURE for LONGEST BLADE LIFE

FREE TRIAL

Don't wonder about the greater profits you'll make with the NEW Clipper SAVE-A-BLADE Dial. A FREE TRIAL will convince you! Only thru Clipper's outstanding policy of FREE TRIAL are you guaranteed ACTUAL TESTING ON THE JOB FULL SATISFACTION AT NO OBLIGATION!

...by the Originators of Masonry Saws



9 MODELS PRICED FROM \$195

Just turn the "SAVE-A-BLADE" Dial to the hardness of the material you're cutting, and the Clipper Pressure Equalizer Spring automatically sets to the tension that guarantees faster cutting and longest blade life—Whether the material is HARD or SOFT... Whether using Diamond or Abrasive Blades... Cutting Wet or Dry with the "DUSTLESS" Model HD.

Another addition to those already famous Clipper features "SELECT-A-NOTCH"—"ADJUST-A-CUT"—"WET-OR-DRY" Pump—and—"ONE-SPOT" Operation.

GUARDS YOUR VALUABLE DIAMOND BLADES

The "DIAMOND" setting on your SAVE-A-BLADE Dial automatically cushions the blade against shock by relieving rim of excess pressure or binding.

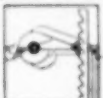


ONLY **Clipper** GIVES YOU ALL THESE EXCLUSIVE FEATURES!

- ✓ Automatic Blade Pressure
- ✓ Select-A-Notch
- ✓ Adjust-A-Cut Control
- ✓ "Wet or Dry" Pump
- ✓ One-Spot Operation



Make your blades last longer... Devises Equalizer Spring automatically cushions blade pressure whether cutting HARD or SOFT materials. Outstanding for blade economy.



See men easily adjust Cutting Head to desired height—Whether cutting 12" or 1" material. Operator's hands merely guide. All weight is supported by rear Connecting Bar.



Merely pull the knob—and the Cutting Head is free for finger tip setting at any desired angle. Release the Knob—and Head is locked in the desired position.



No need to remove belt when cutting dry. No maintenance. Factory Sealed. An exclusive Clipper design. Patented Water Application Unit controls water flow.



From ONE SPOT at the front of his Clipper Saw the Operator performs every cutting operation and makes every saw adjustment. Never leaves his operating position.

Serving the World as the World's Largest Manufacturer of Masonry Saws

Clipper
NATION-WIDE
DIRECT
FACTORY SERVICE

MANUFACTURING CO.
KANSAS CITY 8, MISSOURI

Cable Address: CLIPPER M. C. MO.

PHILADELPHIA • ST. LOUIS • CLEVELAND • AUSTIN, TEX.
SAN FRANCISCO • CHICAGO • NEW YORK • PITTSBURGH

DIRECT FROM FACTORY TO USER

DIAMOND BLADES
DRY ABRASIVE DIAMOND BLADE WET ABRASIVE

CUT WET or CUT DRY
There's a Clipper Blade for Every Job!

MAIL THE COUPON NOW!

CLIPPER MANUFACTURING COMPANY
2808 W. WARWICK • KANSAS CITY 8, MISSOURI

Send TODAY information on the FREE TRIAL offer and complete literature and prices on the 1950 Clipper Masonry Saws.

NAME _____

COMPANY _____

STREET _____

CITY _____ ZONE _____

STATE _____



ANDERSEN *Windowalls*[®]

RIGHT FROM STOCK, the Andersen Gliding Window Units of this **WINDOWALL** spared the home owner the extra cost of special window construction. They cut down installation costs for the builder, because they arrived at the job all weatherstripped and assembled.

Yet they achieve the effect of one continuous picture window, beautiful and weather resistant, because the window units are made of wood. **WINDOWALLS** perform a dual service for the home owner, they open up to

cooling breezes and a view as windows, shut out cold drafts, dust and moisture as walls. And for the builder, **WINDOWALLS** make a house more salable and its owner actually proud of his windows.

Specification data on Andersen **WINDOWALLS** is in Sweet's Architectural and Builders' Catalogs, or will be sent by us upon request. See your local lumber or mill-work dealer for further information.

*TRADEMARK OF ANDERSEN CORPORATION

Andersen Corporation
 BAYPORT • MINNESOTA

**Consult your plumber for
the latest up-to-date
models of...**



Fiat Shower Cabinets

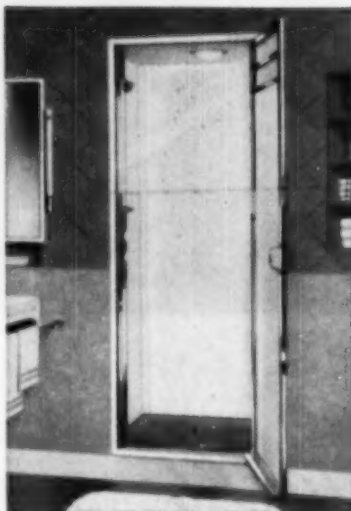
- ✓ Save labor, speed installation time
- ✓ Lower installed cost
- ✓ Beautiful, modern, distinctive
- ✓ Eye appeal to home buyers

Unsurpassed for beauty and ultra-smart appearance, the new Fiat Built-in Cadet shower will add sales appeal to any home.

It saves considerably on shower installation cost by eliminating expensive tile work on the job. Builders report savings of \$40.00 to \$60.00 and more per unit.

Check with your plumbing contractor for details on Fiat Shower models. The Built-in Cadet shower is designed especially for medium and high grade bathrooms.

Use coupon for catalog of complete line of Fiat showers.



New Built-in Model 198
Cadet bathroom shower

FIAT METAL MANUFACTURING CO.

THREE COMPLETE MANUFACTURING PLANTS

(Chicago area plant) Franklin Park, Ill.

Long Island City 1, N. Y. Los Angeles 33, Calif.

In Canada: Fiat showers are made by Porcelain and Metal Products, Ltd., Ontario, Ontario

FIAT

Please send catalog of Fiat Showers, Receptors and Doors.
Also builders bathroom floor sheet.

Name _____
Company _____
Street _____
City _____
Zone _____ State _____

Mail to FIAT METAL MFG. COMPANY • 9301 W. Belmont Ave. • Franklin Park, Ill.

NEW PRODUCTS

(Continued from page 58)

RECESSED LIGHTING FIXTURE AB65037

Prylite recessed lighting fixture for over-counter, in window displays and other commercial installations where not more than 75 watts of flood lighting are required, has fully ventilated housing. Readily adaptable also for



residential use. Fixture may be installed in hallways, porches, vestibules and game rooms where low voltage floodlight can be used. No extra pull box needed for Model 1073, and box is accessible from inside or outside. Requires no framing-in, since it is equipped with adjustable mounting strips and fits either 1/2 or 3/4-inch finish. Pryne & Co., Inc., Dept. AB, 140 N. Tawne Ave., Pomona, Calif.

AUTOMATIC SAW FILER AB65034

Model 61 Foley saw filer files all hand saws, band saws, and cross-cut circular saws, jointing the saw as it is filed, to make all teeth uniform in size, height and spacing. Equipped with Oilite replaceable bearings. High lift of filing arm increases capacity and use of any size of saw file, from D.E.S.T. files with 7/32-inch face to Diamond Point files with 1/4-inch face, large enough to file and joint coarse 3-point saws. Foley Manufacturing Co., Dept. F-32, 3300 N. E. 5th St., Minneapolis 18, Minn.

ALUMINUM STORM DOOR AB65001

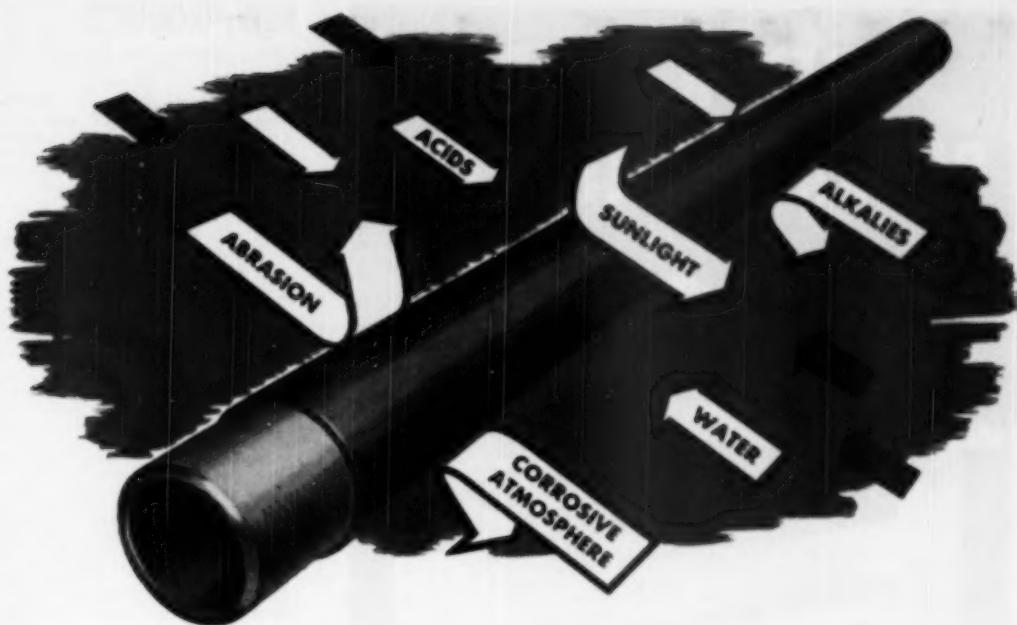
Aluminum used in Trim-A-Seal storm door is Anodized for corrosion resistance, and will not stain or smudge. Jamb frame allows for seasonal expansion or contraction, and instal-



lation in any home. An expansion strip permits adjustments to irregularities in door openings. Sash and screen inserts are mounted in frame, and all glass inserts are glazed with guaranteed stainless steel spline. Stainless steel hinges are guaranteed not to rust. Air-operated door check eliminates slamming at all times. The Aluminum Air Seal Manufacturing Co., Dept. AB, 118 Linden Ave., Youngstown 4, Ohio.

(Continued on page 100)

AMERICAN BUILDER



Cut Costly Corrosion with Polyethylene-Coated Conduits!



THOUSANDS OF MILES of electrical conduits coated with BAKELITE Polyethylene

Plastic are now banishing corrosion problems in industrial and commercial "hot spots."

Typical of these are chemical, meat-packing and sewage-disposal plants, dairies, farms, mines—many another location where wet or corrosive atmospheres and chemicals make other coatings fail rapidly.

In addition to resisting attack by oils, greases, water, most strong chemicals, a BAKELITE Polyethylene coating on conduits—or insulation on wire and cable—possesses a low dielectric constant and power factor. It is impact- and abrasion-resistant. It has an extremely low rate of water absorption. Inherently flexible and extensible

over a very wide temperature range, it is highly resistant to weather.

Engineers, designers, builders, will do well to investigate conduit coated with BAKELITE Polyethylene—to secure longer service, at lower cost and reduced maintenance, and to reduce power failure worries to the vanishing point. For information on suppliers of conduit, wire, and cable coated with BAKELITE Polyethylene, write Dept. 10-64.

Data on Dekoron Electrical Conduit courtesy
Samuel Moore & Co., Mantua, Ohio

Bakelite
Polyethylene
PLASTICS

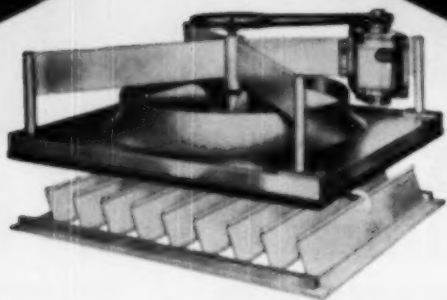


BAKELITE DIVISION, Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y.

JUNE 1950

139

NEW HUNTER PACKAGE ATTIC FANS



Low cost • Easily installed



COOL COMFORT
For Hot Summer Months

The new Hunter Package Attic Fan is a complete home-cooling system—low in initial cost; economical to operate; designed for fast, inexpensive installation. No other small investment gives homeowners so much comfort and pleasure.

Easy to install: Delivered on the job as a compact unit, complete with ceiling shutter and modern metal trim, the Package Fan is quickly installed in rough

ceiling opening. No suction-box to build; no accessories needed. Requires only 18" attic clearance, fits any standard hallway.

Performance Guaranteed: Quiet, trouble-free operation is assured by Hunter's 64 years' experience in manufacturing fans exclusively. Available in capacities from 4750 to 9500 CFM, with air delivery ratings certified. Fan guaranteed 5 years; motor and shutter, 1 year.



Hunter PACKAGE ATTIC FANS

MAIL FOR FAN MANUAL

Hunter Fan and Ventilating Company
381 S. Front Street, Memphis, Tenn.

Send copy of "How to Cool for Comfort" to:

Name
Address
City State

140

NEW PRODUCTS

(Continued from page 158)

WATER SYSTEM

AB63034

Hydraulic Steady-Flow water system is especially manufactured for resorts, cottages, suburban homes and farms. Does not require a storage tank, but pumps directly from well,



cistern, spring or lake. Steady-Flow system consists of a 1/2 H.P. heavy duty motor, rotary pump, mounted on baked enamel aluminum base and pressure control valve. Built-in relief valve assures steady flow of water without continuous starting and stopping. Delivers up to five gallons of water a minute. Pressure ranges from 20 to 40 pounds. Fits under stand and sinks or in other small areas. Measures 18 inches long, 9 inches wide, and 11 inches high. Weight, 40 pounds. Hypro Engineering Co., Dept. AB, Minneapolis, Minn.

TRUCK MIXERS, AGITATORS

AB65005

Jaeger Payloader truck mixers now feature lighter weight, lower price, shorter length and faster operation. Fast end-loading of dry materials is obtained by new hopper design and ability to revolve drum at high speed while charging. Pre-mixed or shrink-mixed materials can be charged in one drop through top door in drum. One turn of hand wheel retracts loading hopper for discharge at rate of 20 to 25 seconds per yard of 4-inch slump concrete, or 60 seconds per yard with 1-inch slump material. Offered in 2, 3, 4½, and 5½ cubic yard sizes as truck mixers, and 3, 4½, 6½, and 7½ yard sizes as agitators. The Jaeger Machine Co., Dept. AB, 920 Dublin Ave., Columbus 16, Ohio.

PORTABLE RODDING MACHINE

AB65017

Model R5 Whitman lightweight portable rodding machine rods concrete slab to perfect level. At the same time, it puddles and vibrates concrete throughout entire depth and



area, compacting and bringing moisture to surface preparatory to floating or finishing preparations. Recommended for screeding jobs of 3 to 12 feet in width. Frame, 5 feet wide. Transverse screed movement, 2½ inches at 100 per minute. Screed drive by Pitman arm from gear box crank Briggs & Stratton Model 7N 1½ H.P. engine. Mercury automatic clutch. Weight, 164 pounds without screed sticks. Whitman Manufacturing Co., Dept. AB, 3249 Casitas Ave., Los Angeles 28, Calif.
(Continued on page 162)

AMERICAN BUILDER



Cost Cutter

Deeper cut with smaller blade just one of the ways Walker-Turner design helps you cut building time and costs with this

New "900" Radial Saw



MORE CAPACITY FROM LESS POWER!

Only the Walker-Turner "900" Radial Saw cuts $3\frac{1}{4}$ " deep with a 9" blade—more than most machines with a 14" blade! You get greater capacity with smaller blades (which require less power) . . . and more rim force at the saw tooth, resulting in higher cutting efficiency.



GET THE WHOLE COST-CUTTING STORY—Here's a radial saw you can use right on the building job to speed construction and occupancy. It's a *complete* machine as shown—there are no "extras" to buy. Does *all* the radial saw jobs easier, better, and at less cost! Mail coupon for bulletin describing in detail Walker-Turner's new "900" Series Radial Saw for wood and plastic cutting.

SOLD ONLY THROUGH AUTHORIZED DEALERS

FOR EASY, PROFITABLE CUTTING!
It's a pleasure to handle the Walker-Turner "900". You'll like the way you can flick the latches and locks, spin the elevating crank, swing the motor and glide through the cut with so little effort. Walker-Turner design gives you full work visibility . . . extra protection in the drop-leaf side guards.



WALKER-TURNER DIVISION

PLAINFIELD, NEW JERSEY

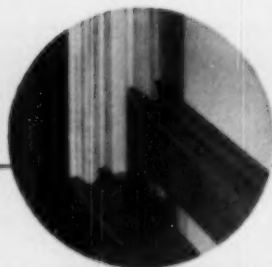
Walker-Turner Division, Kearney & Trecker Corp.
Dept. AB6, Plainfield, N. J.

Please send me the new Walker-Turner "900" Series Radial Saw Bulletin.

Name

Firm

City Zone State



YOUR HOME BUYERS WANT

IN
ONE
UNIT

EFFORTLESS WINDOW OPERATION
COMPLETE WEATHER PROTECTION

Dura-Seal Combination Metal Weatherstrip and Sash Balance provides weather protection, free, easy window operation and window beauty... all in one unit. It eliminates old style pulleys, cords, weights and box frames. It is used with a plank frame which permits the use of narrow mullions and trim. It provides an outstanding visual sales feature for your homes!

ZEGERS *Dura-seal* COMBINATION

METAL WEATHERSTRIP SASH BALANCE

Dura-seal aluminum housings contain life-time cadmium-plated steel coil springs. These housings are attached to the ends of a plank frame and fit into the grooves at both sides of the sash. The springs are completely enclosed.



A FEW OF THE MANY BUILDERS USING *Dura-seal*

- Windsor Village Project in Indianapolis, Indiana... 1000 homes
- Binford Project in Portland, Oregon... 274 apartments
- Roger Givens Project in Oklahoma City... 800 homes
- Lafayette Project, Fayetteville, North Carolina... 80 homes

FOR COMPLETE
INFORMATION ON
Dura-seal

ZEGERS INCORPORATED

8096 South Chicago Avenue, Chicago 17, Illinois



NEW PRODUCTS

(Continued from page 160)

SWIVEL TYPE LAMPHOLDER AB65014

Swivel type Utilite for lighting interior displays may be adjusted to any desired position without damage to conductors. Swivels freely



and holds position without set screws. Approved cord and plug and porcelain socket. Balanced unit has cast base that supports lamp and accessories without tipping. Rubber bumpers prevent marring fine surfaces. Can be mounted permanently on flat surfaces or directly to 4-inch outlet box. Steber Manufacturing Co., Broadview, Ill.

DECORATIVE MOULDING AB65003

Decor-Mould, decorative wood moulding made for closet interiors, is available in 3-foot lengths. Deeply-carved, it comes in six colors: turquoise, tea rose, dark green, blue, yellow, wine or unpainted. Pre-drilled for easy mounting. Brads are supplied. Provides convenient means to add color and distinction to closet interiors. Bendix Manufacturing Co., Dept. AB, 192 Lexington Ave., New York 19, N.Y.

STAINED SHINGLE DISPLAY AB65016

Sample display for lumber dealers permits customer to see color of Olympic Perfect-Fit Shakes and Exterior siding appearing through an outlined die-cut of a house. Compact and colorful display offers a selection of eight



colors from Olympic line to show color possibilities of these two products. Made of heavy cardboard, display is printed in gray and wine to give neutral background for sidewall colors shown. Sample cartons of pre-stained red cedar are printed in same color combinations allowing colors of wood to receive maximum display. Olympic Stained Products Co., Dept. AB, 1118 Leary Way, Seattle 7, Wash.

(Continued on page 164)

HERE IS A MARKET

for

\$6,150,000,000

in CONSTRUCTION

*Don't you
want to bid
on it?*

Government purchasing agencies collectively, are the nation's largest principals for construction contracts and building materials. Among their requirements appears every type of contract.

Included, for example, are road building, dredging, airfield construction, hospitals, private homes, test facilities, removal and wrecking, interior constructions, roofing, ventilating and air conditioning, water control, bridges.

The Government is eager to do business with small and medium-sized concerns. No salesmen, "influence," or "Washington representation" are necessary. New bidders are being added constantly on the sole basis of honest service at a fair price.

The way to this business can be made easy for you. We issue a Daily Construction Bulletin covering all Government requirements. Included are the dates for filing bids, where to obtain specifications. Moreover, our Advisory Service provides information on what procedure to follow, what prices and discounts are current.

You are armed with facts before you start. Here is a market you cannot overlook. And we cover every Federal Agency throughout the country. Government terms are cash—usually 10 to 20 days. Government contracts are bankable assets.

TRILONE ASSOCIATES, INC.

1 HUDSON ST. NEW YORK 13, N. Y.

Fill out and return this coupon NOW
—to reach the greatest
construction customers in the world.

Trilone Associates, Inc. Dept. AB-6
1 Hudson Street, New York 13, N. Y.

Here is our subscription to your Daily Construction Bulletin which, we understand, lists the construction needs of all Government Purchasing Agencies. We also understand that this entitles us to your Advisory Service. Enclosed please find our check for \$72.00 to cover both for one year; or (check here) for six months subscription at \$41.00.

Firm Name _____
By _____
Street Address _____
City _____ State _____

"Shop here!"
says this inviting interior
of sparkling real clay
Suntile

It speaks for itself, this store interior of real clay Suntile. It speaks for you, too.

Cheerful, color-bright and ever-so-clean, it tells shoppers you've planned a really pleasant place for doing business. Durable, impervious, clean-in-a-second, it tells your client, over and over again, that you have helped him cut—almost to nothing—refinishing, redecorating and cleaning costs.

Yes, a Suntile interior recommends your work on every job because it's quality-built, through and through.

Only the finest clays are used in manufacture, fired at approximately 2000 degrees and precision processed every step of the way.

Colors are permanently fadeless. The beautiful blends you can achieve so easily with Suntile's Color-Balance will last for a lifetime.

Installation is guaranteed for excellence by a specially trained Authorized Suntile Dealer. He knows tile and he can show you why it's good business to plan any store in Suntile. See his name in your classified directory or write us.



**Ideal for: schools, hospitals, stores, public buildings,
 industrial plants, residences**



"PERSONALLY YOURS" Free! This valuable booklet illustrates striking Color-Balanced Suntile installations. Shows many of Suntile's 22 beautiful new wall colors, 27 colors of unglazed ceramic mosaics, 10 colors of Suntile Camargos. Send for your copy today! Dept. AB-6, The Cambridge Tile Manufacturing Co., Cincinnati 15, Ohio.

WAREHOUSES

The Cambridge Tile Mfg. Co. The Cambridge Tile Mfg. Co.
 470 Alabama St. 941 N. Citrus Ave.
 San Francisco 10, California Los Angeles 38, California



SUNTILE OFFERS YOU BOTH • BETTER TILE • BETTER INSTALLATION

WALL STREET

**It's time
to cut
Costs!**

...the Printing Calculator way

You're bucking tough competition in *every* branch of the building industry—a condition that makes wasteful figuring methods a bigger liability than ever!

Why not switch to the top-economy *Printing Calculator*—the all-purpose, automatic figuring machine that does *all* your computing jobs? For estimating, payroll work, cost checking, tax figuring . . . you can't beat the plus values built into this remarkable calculator: high speed addition and subtraction, automatic division and direct multiplication.

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Remington Rand, Business Machines and Supplies Division,
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Name Title

Company

Address

City Zone State

Cheaper Building Host of Contractors Offer Cutthroat Bids on Factories, Roads, Dams Competition Spells Shrinking Profits in 1950 Though Building May Set Record Mortality Rate on Increase

BY LAWRENCE E. BARNES
Staff Correspondent of The Wall Street Journal
SAN FRANCISCO—This country in 1950 will probably see the biggest volume of building in its history—but, builders, will the competition be fierce?

That's the theme coming from 1,000 building contractors meeting here this week for the annual convention of the Associated General Contractors of America, Inc. They're the men who lay the nation's roads, build the dams and factories, the skyscrapers and nursing homes of America. They're the men who build.

The reason is simple: The many builders, a good many in their mushrooming growth as overall contractors in 1950, members of the

NEW PRODUCTS

(Continued from page 162)

REST ROOM FIXTURE

AB45015

Sanitary fixture, a woman's urinal developed for public rest rooms, may be used without recourse to physical contact, thus assuring clean-



liness and freedom from contamination. Easy to install, it fastens securely to floor as a regular water closet does. Slightly higher than the usual water closet, it incorporates large water area. Manufactured in white and various pastel shades, of vitreous china. American Radiator & Standard Sanitary Corp., Dept. AB, P.O. Box 1226, Pittsburgh 30, Pa.

GAS FLOOR FURNACE

AB45018

Compact, shallow type janitorial floor furnace is available with 30,000, 50,000 and 65,000 B.T.U. input ratings. Depth is 27-9/16 inches, without overhang of valves or other fittings. Designed for minimum of joint cutting in installation. Completely automatic controls are available as optional equipment. All models are equipped with 100 per cent safety shut-off. Interchangeable burner heads meet requirements of all types of gases. AGA-approved for all gases including LP. Surface Combustion Corp., Public Relations Div., Dept. AB, Toledo 1, Ohio.

TWIN MOTORED EDGER

AB45010

One motor of the Lincoln E-7 edger drives a sanding disc, and the other the dust pick-up fan so that no matter how heavy the load on the sander, the vacuum retains full efficiency.

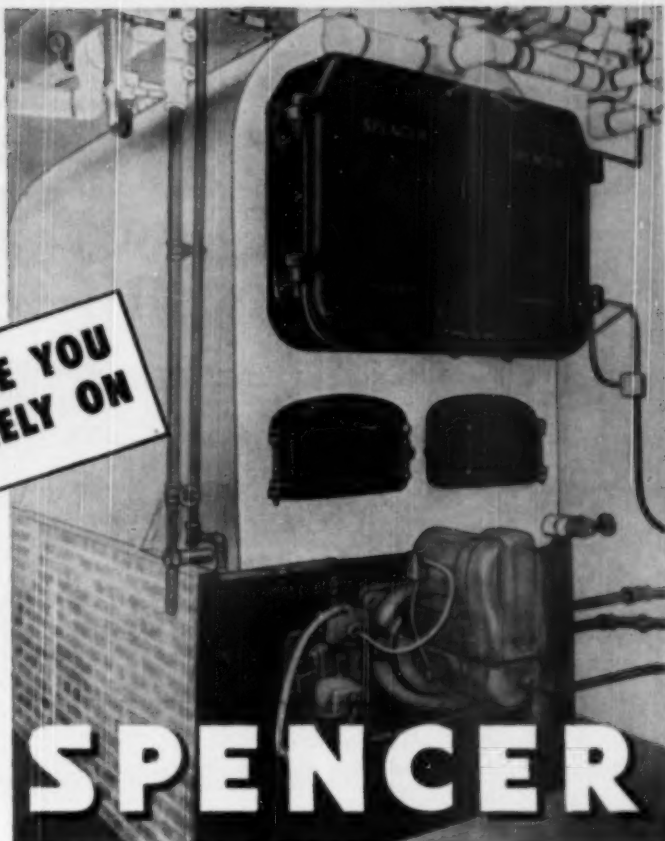


Both motors are permanently lubricated. Adjustable casters provide for uneven floors, ride up to baseboards and reach hard-to-get-at places. Light illuminates dark areas. Weight, 26½ pounds. Dimensions, 12 x 13 x 10 inches. Fully guaranteed. Lincoln-Schlueter Floor Machinery Co., Dept. AB, 1250 W. Van Buren St., Chicago 7, Ill.

(Continued on page 166)

AMERICAN BUILDER

**A NAME YOU
CAN RELY ON**



THE QUALITY LINE OF HEATING BOILERS

VERSATILE

Boilers for all types of fuel and all methods of firing. Capacities from 290 to 45,000 square feet, steam.

DEPENDABLE

Precision-engineered and manufactured to give superior, *guaranteed* service.

**THERE IS A SPENCER
FOR EVERY BUILDING
FOR EVERY FUEL**

**76 Dependable Models
to Choose from**



Write for free catalog today

Constructed in
accordance with
ASME requirements.
Fully approved by
Steel Boiler
Institute or
Institute of Boiler
and Radiator
Manufacturers





use "Modernfold" door *Magic* to turn prospects into buyers!

Many smart builders find houses sell easier and faster with "Modernfold" accordion-type doors. That's why you'll find these handsome, vinyl-covered, steel-framed doors in the homes they sell!

People Stop Looking—Start Buying! Yes, "Modernfold" doors sell buyers. They like the way these folding doors give them complete usability of every square foot they pay for. They thrill to the beauty of the colorful vinyl covering—flame-resistant, non-peeling, non-cracking, non-fading—so easily cleaned with soap and water.

Cost No More Than Swinging Doors! That's right, Mr. Builder! Although they offer so much more in eye-appeal and buy-appeal, they cost no more—and often less. That's because they save the price of trim, jamb, hardware, painting—require so little time for installation.

Don't put it off! Look into the profit possibilities of "Modernfold" doors at once. Get the whole story from our installing distributor. You'll find his name under "doors" in your classified telephone book. Or just mail this coupon.

Sold and Serviced Nationally



New Castle Products
P. O. Box 832, New Castle, Indiana
Gentlemen:
Please send me full details on "Modernfold" doors.

Name.....

Address.....

City.....State.....

NEW PRODUCTS

(Continued from page 164)

REMOVABLE WINDOW UNIT AB65003

Kwik-Kleen window units are controlled by positive action overhead sash balances, offering fingertip control. Both top and bottom sash



may be removed quickly without tools for easy cleaning inside the room. Completely weather-stripped on 16 surfaces, with hardware furnished and installed. Window can be installed by one man in five minutes. Harris Brothers Co., Dept. AB, 1349-1451 W. 35th St., Chicago 9, Ill.

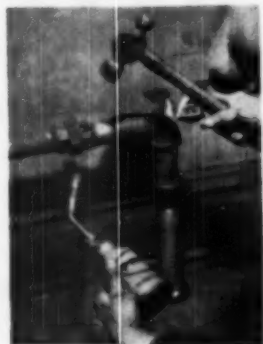
AUTOMATIC CLOTHES DRYER AB65033

Automatic electric clothes dryer is designed to operate as a "plug-in" appliance in conjunction with Frigidaire's automatic clothes washer. New low-volt, tumblin'-action dryer is equipped with special timer to eliminate re-dialing for extra drying time; a 1400-watt, 115-volt heating element, and an appliance cord which permits installation as a simple plug-in in any standard household electrical outlet. Clothes are tumbled dry in revolving drum. Frigidaire Div., General Motors Corp., Dept. AB, 300 Markham, Dayton 1, Ohio.

HAND TORCH

AB65037

Prepo, self-pressurizing, self-vaporizing fuel, is packaged in a disposable container for use with new Prepo hand torch. Torch lights instantly with a match. Fuel container is size of ordinary beer can, and when fuel is expended,



it is thrown away. May be used for heating metal, for bending and reshaping, soldering, loosening of bolts and nuts, heating asphalt tile for against-the-grain cuts, paint removing and sweating lugs on heavy cable. Weight, with attachments, 1 1/4 pounds. Pressure Products Corp., Dept. AB, 140 N. Dearborn St., Chicago 2, Ill.

(Continued on page 168)

AMERICAN BUILDER

NEW **ALWINTITE** **ALUMINUM** **SLIDING WINDOW**



ALWINTITE introduces a new stainless-steel, weather-stripped, aluminum sliding window...and what happens?

America's largest residential builder features these new ALWINTITE sliding windows in *all* his 1950 houses—both in the \$7990 houses as well as the \$20,000 homes.

Out of some 16 different windows that were submitted Levitt & Sons selected the ALWINTITE sliding window because of its quality in design, material and manufacture, its smart styling, its functional efficiency, its permanence, its ease of installation and its final low "installed cost." Once you've seen these new windows for yourself, you'll see why.

Home buyers will find these windows wonderfully easy to operate and maintain. Both sash are readily removable for full ventilation and easy cleaning. They never need

painting or routine upkeep. They fit beautifully into any modern or ranch-type house and can be used singly or in any number of interesting combinations, with or without fixed lights. Screens and stormsash are also available.

You can benefit from all of these advantages in your houses—whether your plans call for ten units or ten thousand. Investigate today. We'll send you complete details and prices. Just write or wire. Dept. AB-6.

ALUMINUM WINDOW CORPORATION—A subsidiary of
GENERAL BRONZE CORPORATION
STEWART AVENUE • GARDEN CITY, N.Y.



Selected by
LEVITT & SONS
DEVELOPERS, NEW YORK
for their
1950 houses



“Here’s
time-tried roofing
for modern homes—
It’s **FOLLANSBEE
TERNE METAL**”



IT PACKS A LOT OF SALES PUNCH

IT'S LIFETIME ROOFING AT THE RIGHT PRICE

IT FITS INTO ANY STYLE OF ARCHITECTURE

If you're building ranch-style homes, or Cape Cods—or any other type of modern housing—Follansbee Terne Metal Roofing is the ideal material to match the architecture and the color scheme.

The lifetime durability of Follansbee Terne Metal Roofing is a real magnet for buyers while the color combinations of roof and trim assure a fresh, in-style appearance.

Don't overlook the pulling-power of time-tried Follansbee Terne Metal Roofs. More and more buyers are going to ask about them when they see the pleasing designs and colors in Follansbee's national advertising. So you'll want to read the booklet "Beautiful, Lasting Roofs of Follansbee Terne" to help you answer their questions—write for a copy today.

FOLLANSBEE STEEL CORPORATION

GENERAL OFFICES, PITTSBURGH 30, PA.

COLD ROLLED STRIP • ELECTRICAL SHEETS • POLISHED BLUE SHEETS • SEAMLESS TERNE ROLL ROOFING



Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee, San Antonio—Chicago, Indianapolis, St. Louis, Kansas City, Nashville, Houston, Los Angeles, San Francisco, Seattle, Toronto and Montreal, Canada.
Peters—Follansbee, W. Va.

FOLLANSBEE METAL WAREHOUSES

Pittsburgh, Pa.

Rochester, N. Y.

Fairfield, Conn.

NEW PRODUCTS

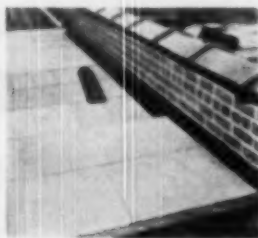
(Continued from page 166)

ROOFING MATERIALS

AB65031

Asphalt-coated on all three sides, Celotex core greatly reduces danger of moisture absorption. Asphalt coating also insures superior bond of

surfaces, Celotex core greatly reduces danger of moisture absorption. Asphalt coating also insures superior bond of



or roof insulation. New strip extends four inches up the wall and four inches over the deck. Cut-off right angle corner permits snug fit to wall and deck, allowing space for asphalt, mortar or other material which accumulates along angle formed where the deck meets the wall. Strips are lightweight, strong, easy to handle and cut, and are protected from attack by termites, dry rot or fungus growth by patented Ferox process. Available in 40 and 47-inch lengths. The Celotex Corp., Dept. AB, 120 S. LaSalle St., Chicago 3, Ill.

COMBINATION WINDOW

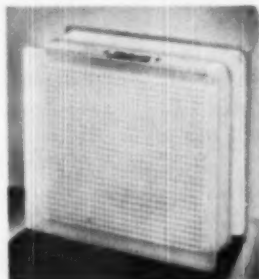
AB65029

"Aralum" combination aluminum window combines storm, screen and weather stripping in one convenient unit. Householder can shift from storms to screens in seconds, from indoors, without wasted time and effort. Removable sill and controlled no-draft ventilation. Sashes can be removed easily from inside the house for quick cleaning. Alumetec Corporation of America, Dept. AB, 2081 S. 56th St., Milwaukee, Wis.

GLASS BLOCK

AB65012

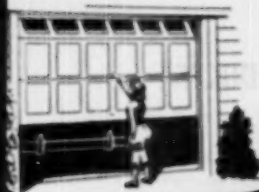
Soft-Lite Essex 8 55 glass block permits uniform panel appearance, and excellent brightness control. Soft-Lite edge treatment (opal glass fused into block junction to diffuse light which



would otherwise be transmitted directly through the block edge) creates uniformly soft panel appearance. A fibrous glass insert is used to further diffuse light transmitted by glass block. Some blocks are designed for use on south elevations, others for north elevations. Light directing and light diffusing blocks are available for these special applications. Pittsburgh Corning Corp., Dept. AB, 307 Fourth Ave., Pittsburgh 22, Pa.

(Continued on page 170)

AMERICAN BUILDER



APPROXIMATELY
\$65⁰⁰
 Size
 8' x 7'

*Price may vary slightly depending on locality
 Please call us to check without obligation*



Fleetwood

MAKES GARAGE DOOR HISTORY

**Compare these de luxe features
 with any other door:**

- 1 DE LUXE 4-SECTION DESIGN** — not a one-piece door.
- 2 ALL-WOOD 24-PANEL CONSTRUCTION**, kiln dried Douglas Fir and exterior plywood.
- 3 FULL WIDTH SECTION FOR GLASS.**
- 4 WEATHERPROOF PATENTED INTERLOCKING JOINT** between each section, full width.
- 5 56 STRAND, QUIET, AERO-TYPE CABLES** with internal lubrication.
- 6 TEN ROLLERS WITH 100 BIG BALL BEARINGS.**
- 7 INSTANT SPRING ADJUSTMENT BRACKET** on each side.
- 8 5-PIN CYLINDER TYPE LOCK** with chrome plated handle.

- 9 DOUBLE EXTENSION SPRINGS.**
- 10 GALVANITE RUST-PROOFED HARDWARE.**
- 11 LOWER CORNER BRACKETS** cradled under door take all lifting load.

See this handsome new door at your local Crawford dealer. If not yet available in your community, write us direct or send check and trial order and we will ship promptly from point nearest you. It's a record-breaking value, priced away below the market. Quickly and easily installed by your men and works like a charm. Money-back guarantee.

**FLEETWOOD DOORS ARE
 ANOTHER PRODUCT OF**

Manufacturers of the Crawford Marvel-Lift Door, the Doormaster, and the Stylist.

**FLEETWOOD DOORS
 AS WELL AS THE
 CRAWFORD MARVEL-LIFT,
 DOORMASTER AND STYLIST,
 ARE AVAILABLE THROUGH
 Crawford Door
 Sales Companies
 IN THE FOLLOWING CITIES**

- ALBANY**, Sherwood Park, Beaconville, N. Y., Phone 22-2024
AMARILLO, 1412 West 10th St., Phone: 3-3553
ATLANTA, Olive & Washington St., Decatur, Phone: Crescent 3858
BALTIMORE, 1010 Fells Road, Phone: Hamilton 1218
BALTIMORE, 1211 Fells Rd., N. Phone: 6-7883
BIRMINGHAM, ALA., 2630 N. 12th Ave., Phone: 4-1712
BOONTON, 430 William St., Phone: 3816
BRIDGEPORT, 736 Railroad Ave., Phone: 4-5225
BUFFALO, 567 Wendover Ave., Phone: Fillmore 1880
CADILLAC, 123 Huron St., Phone: 1880
CANADA, Ontario, Ontario, 325 Rossmore Ave., Phone: 7253-23
CHARLESTON, S.C., 216 Bay Street, Phone: 5967
CHARLOTTE, 1720 Tryon St., Phone: 4-6571
CHATTANOOGA, 7700 E. 70th St., Phone: 2-8464
CHICAGO, 1421 W. Lake St., Phone: Haymarket 1-2030
CLEVELAND, 7004 E. 70th St., Phone: Express 1-7083
COLUMBUS, 554 West 8th St., Phone: Main 7810
DALLAS, 5627 Yale Blvd., Phone: Emerson 6-2923
DENVER, 1501 East 1st, Phone: Cherry 3114
DETROIT, 4051 Grandt, Phone: Walnut 4-0000
EL PASO, 1630 E. Missouri, Phone: 2-2020
ELKHART, 1714 S. 7th St., Phone: 4-0888
EVANSTON, 421 Fulton Ave., Phone: 3-4092
HARRISBURG, PENNA., 21 S. 31st St., Phone: 4-5525
HOLLYWOOD, FLORIDA, P. O. Box 65, Phone: 3534
HUNTON, 5225 Griggs Road, Phone: 0308 4326
HUNTINGTON, 1367 S. 10th St., Phone: 2-4753
INDIANAPOLIS, P. O. Box 6004, Phone: Broadway 7062
JACKSONVILLE, 2717 Main Street, Phone: 46010
KANSAS CITY, 1720 Oak Street, Phone: Baltimore 3580
KNOXVILLE, 501 Laurel St., Phone: 2-4037
LAWTON, 10 "C" Street, Phone: 2790
LITTLE ROCK, 924 E. Third Street, Phone: 4-4706
LONG BEACH CITY, 32-16 31st Ave., Phone: Stillwell 4-1960
LOS ANGELES, 167 Avenue St., El Segundo, Cal., Phone: Oregon 6-2160
LOUISVILLE, 7475 Lexington Rd., Phone: Highland 2001
LUBBOCK, 2717 Olsen Rd., Phone: 2-3175
MADISON CITY, 521 First National Bank Bldg., Phone: 329
MEMPHIS, 536 Madison, Phone: 35-7381
MERIDIAN, 2211 Fourth St., Phone: 71 and 72
MILWAUKEE, 1961 W. Forest Home Ave., Phone: Compton 4-0000
NASHVILLE, 955 Church St., Phone: 3-7011
NEW ORLEANS, 1911 Magazine St., Phone: Raymond 7330
NEWARK, 30-30 Broadway, Phone: Hamilton 2-7000
NEWTON UPPER FALLS, 50 Linden St., Phone: Superior 4-4225
ODessa, 106 N. Belmont St., Box 819, Phone: 2642
OKLAHOMA CITY, 2510 N. W. 10th St., Phone: 563-45
OKLAHOMA, 6011 Deloit, Phone: Walnut 2880
PHILADELPHIA, 440 Collings St., Phone: Pilgrim 5-4580
PITTSBURGH, 60 S. 10th St., Phone: Exchange 6100
PORTLAND, OREGON, 301 S. W. First St., Phone: Broadway 2618
ROCHESTER, NEW YORK, 822 State St., Phone: Hamilton 5853
ST. LOUIS, 1617 Lafayette, Phone: Lathrop 6100
ST. PAUL, 180-184 E. 6th St., Phone: Garfield 4667
SALT LAKE CITY, 150 W. Second S. St., Phone: 2-1335 and 2-9625
SAN ANTONIO, 427 Westwood Drive, Phone: Studyville 4-5177
SAN FRANCISCO, 550 Mission St., Phone: Garfield 2-4971
SEATTLE, 103 Mulberry St., Phone: 5200
SHREVEPORT, 111 Pelton, Phone: 7-4770
SPRINGFIELD, ILL., 347 N. Walnut, Phone: 3-5312
TACOMA, P. O. Box 1814, Phone: Main 6796
TULSA, 1225 So. Exchange St., Phone: 2-4300
UTICA, 1321 Butler St., Phone: 4-6440
WASHINGTON, 110 14th St., S.W., Phone: National 5073
WICHITA, 1441 S. W. 10th St., Phone: 3-0905

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There are *two sides* to the Superiority of **PAINE REZO DOORS**

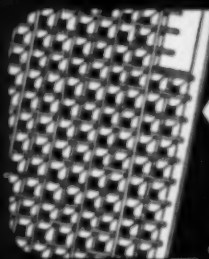
One is the
**1 3/4" Standard
Thickness**

that helps de-
liver unsur-
passed rigid-
ity and
strength;



the other is
**Dimensional
Stability**

provided by an
interlocking
wood mesh
core that has
been time-test-
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proved by more
than four million
installations from
coast to coast.



And both sides give you and your customers
**An Unconditional Guarantee
of Satisfactory Service**

a product warranty backed by the world's largest
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and contractors everywhere. See SWEET'S FILE, or write
directly for a data bulletin.

Manufactured by the

PAINE LUMBER CO., LTD. Oshkosh
Wisconsin

ESTABLISHED 1853

NEW PRODUCTS

(Continued from page 168)

GAS SPACE HEATER

AB65032

Comfortex gas space heater, Model 320-5, is a 20,000 B.T.U. capacity, direct-type vented circulating heater, approved by the American Gas Association. It is 21 inches wide, 21 inches high and 14 1/2 inches deep. Designed for fast heat production, and equipped for use with any of



four types of gas—natural, manufactured, mixed or L.P. Individual orifices are provided so that proper one can be inserted in inlet valve to automatically maintain proper flow of fuel, and eliminate need for special adjustments. Optional control equipment. Inland Steel Container Co., Dept. AB, 325 N. Cortez St., New Orleans 19, La.

OCTAGON OUTLET BOX

AB65021

New 3 1/2 inch "Redeeg" octagon outlet box is equipped with two all-purpose clamps to accommodate armored cable, non-metallic sheathed cable, and flexible tubing in connection with open-type wiring. Box is 1 1/2 inches deep, made of 14-gauge formed steel electro-galvanized throughout, and approved by Underwriters' Laboratories, Inc. National Electric Products Corp., Dept. AB, Chamber of Commerce Bldg., Pittsburgh 19, Pa.

IRON RAILINGS DISPLAY

AB65030

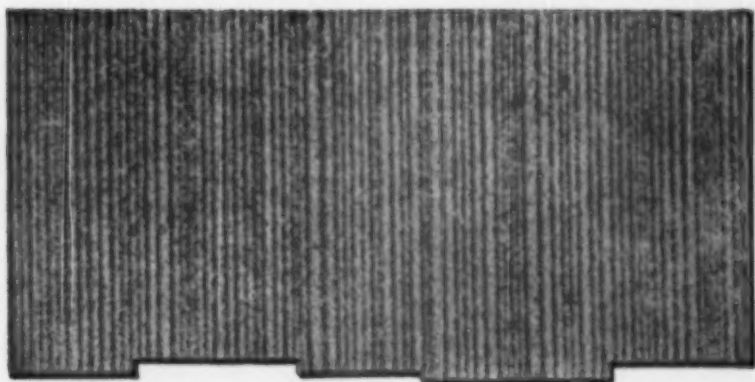
Handy display stand for merchandising architectural iron railings shows 30-inch section of actual railing. Prospect can examine it and visualize how it will look on the house. Display railing has special base to make it stand



on dealer's floor or in window without fastening. Upright which holds center ornament is easily removable, and interchangeable with three other designs of ornaments included in the display. Railings are custom-built to fit each particular job. Dealer carries no stock, but takes orders for type and size needed. The Belknap Co., Dept. AB, Appleton, Wis.

AMERICAN BUILDER

**CASH IN
ON THIS**



Colorful

SALES STORY



**Now you can offer customers
FLINTKOTE ASBESTOS-CEMENT SIDING
in Beautiful, Decorative Colors**

Step out ahead of competition. Feature the sensational new STRI-TEX... Flintkote's newest development that gives Asbestos-Cement Sidings a *textured, colorful* beauty that adds a world of charm to any building.

Currently available in brown, green and gray... with other new colors soon to be added... this striking new Flintkote Product gives you an important selling edge.

With STRI-TEX, you can offer all the advantages of Asbestos-Cement Siding... freedom from painting expense; exceptional durability; rotproof, termite proof, fireproof... **PLUS** this new, textured beauty that matches the most expensive and beautiful sidewall coverings.

Don't fail to get complete information on this striking new siding design at your earliest opportunity. If your local dealer doesn't have it, write us. We'll see that you both get it. In a hurry.

**STRAIGHT-EDGE
TAPERTEX**



**WAVELINE
WOODGRAIN**



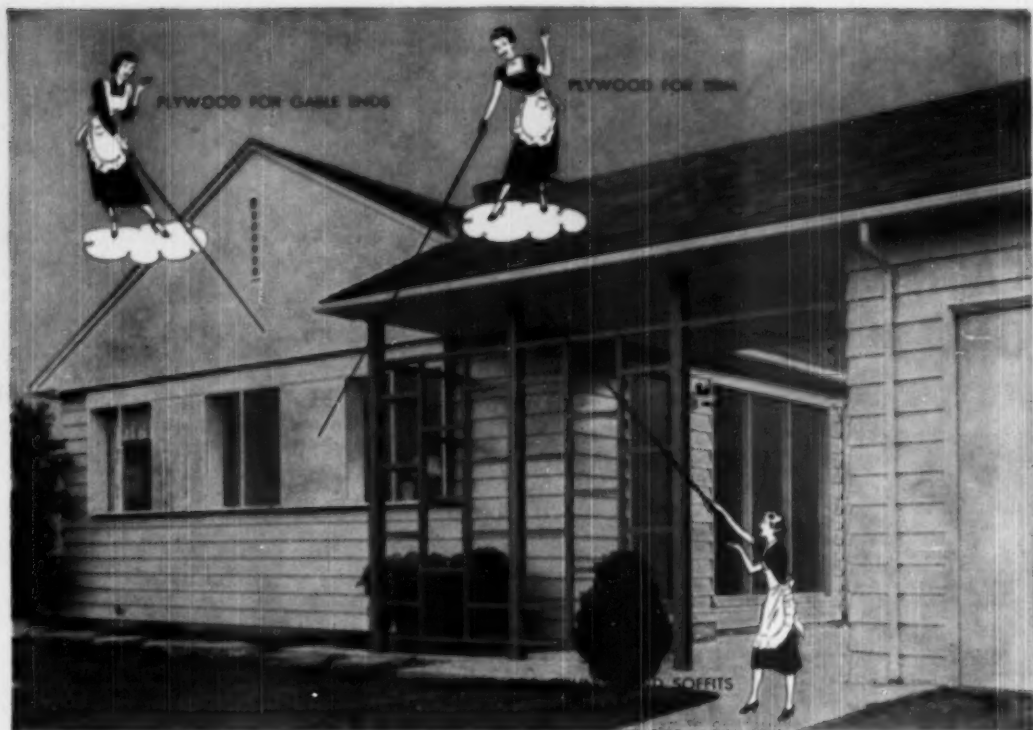
These two patterns are among the most popular standard in the Flintkote line. Available in White, Super-White and Silver Gray. Specifications for both: Pieces per Square, 37; Approximate weight per Square, 185 lbs.; Exposure, 10 1/2" x 24"; Headlap, 1 1/2".

THE FLINTKOTE COMPANY, Building Materials Division
30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.



FLINTKOTE

the extra years of service cost no more!



"Extra" Touches Like These—

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Make Homes Sell Faster!

How often it's true! The difference between a quick sale and an investment-eating house-on-your-hands can be found in the little "extra" features of design.

Durable Exterior-type Douglas fir plywood can help you give your houses extra eye-appeal—easily, economically. Big, construction-speeding plywood panels can't be beat for gable ends, soffits, porch ceilings, trim. And they add so much in appearance!

Plan to give your homes a "plywood personality"—for quicker sales.



**Nationally Advertised
To Help You Sell—Faster!**

Douglas fir plywood for gable ends, soffits and trim—for modern fences and enclosures—is currently featured in *American Home* and *Better Homes and Gardens*. Millions of home-conscious readers will see this plywood story.

***Douglas Fir* Plywood**

**AMERICA'S
AMERICAN BUILDER**

Add Low-Cost Sales Glamour With A Plywood Fence!

The modern trend is to outdoor living—with privacy. And no other material is quite so versatile as Exterior plywood for fences and enclosures of every kind. Here are six especially designed to use America's Busiest Building Material. Plans are available. Just clip and mail the coupon below.



A "stepped" design with plywood. Vertical 2"x6" sections, cut from Exterior plywood panels, with 2"x6" dividers set at an angle. Plan No. ES-10.



Idea for dressing up a carport. Exterior plywood applied horizontally to framing members of the port to create weather and sight screen. Plan No. ES-20.



Movable, vertical plywood screen for porch. Exterior panels with a 1 1/2" brace, pivoted at top and bottom to swing open or shut. Plan No. ES-30.



Woven plywood fence. Two-foot wide panels secured to alternating sides of posts with a "Beating" spreader to give the woven effect. Plan No. ES-40.



Here, panels are used with 2 1/2"x4" posts and 2"x4" top and bottom rails. 1"x2" pieces applied in pattern for stiffeners and design effect. Plan No. ES-50.



Another "step" design. Large panels placed horizontally, with 2"x4" posts and frames. Alternating open areas at top. Plan No. ES-60.



Large, Light, Strong Real Wood Panels

For additional data, see the 1950 Basic Plywood Catalog. Write (USA only) the Douglas Fir Plywood Association office nearest you: Tacoma Bldg., Tacoma 2, Wash.; 848 Daily News Bldg., Chicago 6; 1232 Shoreham Bldg., Washington 5, D.C.; 300 Fifth Ave., New York City 18.



Plywood Siding —for sales appeal—plus!

PlyShield—the siding grade of Exterior plywood—fits any architectural style, from traditional to contemporary . . . any treatment, from bead and batten to wide or flush siding. Bonded with completely waterproof adhesive, big construction-speeding panels of PlyShield make possible beauty that endures . . . offer you another avenue of profitable sales.

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All six of these striking designs are available as complete working plans. Fill out and mail the coupon—today!

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Please send me fence plans checked: ES-10() ES-20()
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BUSIEST BUILDING MATERIAL

JUNE 1950

Get mill speed and accuracy with a Stanley Safety Saw and adjustable saw track



Save hours of laying out and marking time on duplicate pieces with this portable shop set-up... a Stanley Safety Saw in a Stanley Saw Track. No. 158 track pivots to any selected angle. Saw also can be tilted up to 45°, giving any angle for multiple cuts, straight or bevel. Every cut machine perfect, piece after piece. Fits any model Safety Saw... W-7, W-8 or W-9. Extra power in these rugged, easy to use power saws. Duplex handle with 2 independent trigger switches for use in any position. Simple depth of cut adjustment from 0". Heat treated alloy base (will not bend or warp), heavy duty gears, automatic lubrication, sealed ball bearings. AC or DC. Round arbor fits any standard saw blade.



Reg. U.S. Pat. Off.

This trade mark on electric tools tells you the most important thing you want to know about tools

When you buy an electric tool you have to take somebody's word about gears, motor, bearings, shaft, switches, power, etc. Whose word about tools could be more reliable than the word of "Stanley"... tool makers for over 100 years. On electric tools the name, Stanley, means that the tools are quality built, thoroughly tested and honestly rated. Covered by a generous guarantee and serviced by a network of Stanley Service Stations. See your industrial distributor or write for complete catalog. Stanley Electric Tools, 492 Myrtle St., New Britain, Connecticut.

No. 24 1/2" ELECTRIC DRILL
Compact, lightweight design for working in close quarters.



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Plywood Company to Make Panels from Wood Waste

A new process for making low-cost three-ply panels from woodwaste, already proven commercially successful in Europe, has been acquired by the United States Plywood Corp., the firm's president, Lawrence Ottinger, announced recently.

Ottinger said that the panels, having many of the properties of plywood, will be produced first at a new plant to be erected by the company at Orangeburg, S.C., and later at plants in all sections of the country. The first plant, with an initial capacity of 40 to 50 million feet a year, on a 1/2-inch basis, is scheduled to be in operation by the end of the year. Production is under an agreement with Fred Fahrni, Swiss engineer.

Under the agreement, the corporation will have the exclusive rights to the product, known as Novopan, in the United States and Canada. It will be produced from shavings and chips, customarily useless except as fuel, by specially designed equipment, some of which will be made in the United States and the remainder imported from Switzerland.

Fahrni said Novopan has been produced in Europe since 1945, commercially since 1947. He described its production as follows:

"Novopan is made of wood waste into a composite board of three layers, two surface layers of wood shavings and the core material of wood chips. In the reconstructed wood, the surfaces are very thin wood shavings with a high resin impregnation, these shavings being deposited upon an aluminum plate. The core of Novopan consists of medium-sized wood segments which are then deposited in whatever quantity desired for the end thickness.

"Another layer of fine shavings is then deposited and covered with an aluminum plate and then inserted under heat and pressure in specially-built hot plate presses. The entire process follows the sandwich board idea. It can be made in thicknesses from 3/4 to 1 1/4 inches, in panel sizes of 4x8-feet or 6x12-feet.

"The board is given a finish without removal from the press, the finish being effected by the use of certain resinous materials, the thickness of the shavings and the heat control."

The Swiss engineer said the product was being used by a furniture factory in Belgium for making kitchen and bedroom furniture, table tops, cabinets and buffets. It is also being used in Europe for wall paneling and for partitions in motion picture theaters.

AMERICAN BUILDER

As simple as



Western Pine Paneling Patterns

NOW STANDARDIZED

To simplify the specifying and ordering of Western Pine Paneling, member mills of the Western Pine Association have standardized on 17 paneling patterns.

All you have to do is specify and order by number. You'll see how easy it is when you get your *free* copy of "Western Pine Paneling Patterns" showing full size details and dimensions of each of the 17 standard patterns.



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Yoon Building • Portland 4, Oregon

THESE ARE THE WESTERN PINES

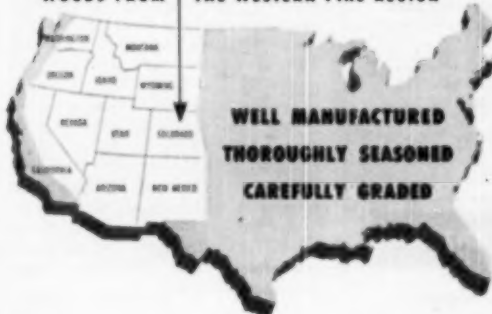
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WOODS FROM

Idaho White Pine,
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THE WESTERN PINE REGION



**WELL MANUFACTURED
THOROUGHLY SEASONED
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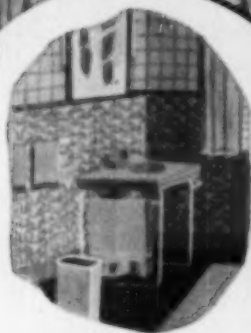
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Bermuda TILE FOR VARIETY

Four delightful patterns reminiscent of Early American decoration and four of our most popular colors—that's *Bermuda* Tile. When combined with plain white or tinted tile, *Bermuda* Tile gives you an almost unlimited variety of architectural or decorative effects. Robertson *Bermuda* Tile lends distinction to many rooms in the home of today.

Like all Robertson Genuine Clay Tile, *Bermuda* Tile will not discolor, chip or craze. It is fireproof and stainless. Its designs and colors are burned into the tile; they will not wash off or fade; they remain permanently fresh, permanently lovely. Write today for your free samples.

ROBERTSON
MANUFACTURING COMPANY
TILE DIVISION
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the most
SENSATIONAL
New Door Design
of the DECADE

FOR CLOSET DOORS

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the New
RA-TOX
FLEXIBLE DOOR

★ New Low Cost!

★ New Design Beauty!

★ Your Chance for Profit and Easier Sales!

**WHAT OTHER DOOR HAS
FEATURES LIKE THESE?**

Air circulates through the door . . . helps avoid summer closet mustiness and winter chill.

Low cost . . . low initial cost plus low installation cost saves dollars. Door is finish painted and complete with hardware. Installed completely . . . only tool necessary a screw driver.

Saves space . . . door folds to door frame, eliminates space wasted by door swing.

Beautiful finishes . . . your choice of eleven different colors including beautiful No. 145 Natural.

Compare it for design, construction, installation ease and use . . . there's nothing equal to the Ra-Tox Flexible Door.

Ra-Tox Flexible Doors make outstanding door units for walk-in or built-in closets . . . and are ideal for room dividers and related uses. They harmonize with any type room design . . . and are available in a wide range of stock sizes. They're low in cost, amazingly attractive, strong and durable.

Builders . . . save 30% and more on every closet door. Ra-Tox Flexible Doors are delivered to you finish painted and complete with hardware . . . can be installed in a few minutes per door.

Dealers . . . ask today for complete information on the Ra-Tox Flexible Door line. Can be sold for new and old buildings . . . adaptable as room dividers.

Architects . . . let us send you specifications. Here's a product that will help to lower costs . . . that offers new opportunities for intriguing room design.

WRITE FOR COMPLETE INFORMATION AND PRICES

Designers and Manufacturers of Ra-Tox Wood
Spiral Ventilating Shades and Related Products for Almost Fifty Years

ANOTHER
GREAT PRODUCT
built by

THE HOUGH SHADE CORPORATION

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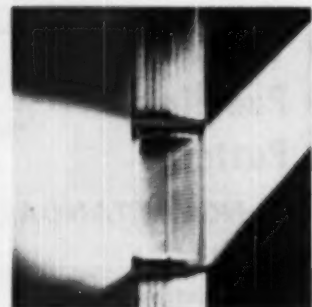
1044 Jackson Street

Janeville, Wisconsin

**New Development
In Glass Block**

Recent development by glass block manufacturers is a light-directing block designed to transmit more daylight under conditions usually considered adverse. The blocks accept more daylight than previously, and diffuse it more evenly to the front and rear walls of a room.

A new light-directing, "azimuth-correcting" block introduced by the Insulux Division of American Struc-



tural Products Co., like the original Insulux prismatic block, directs a major portion of daylight toward the ceiling from where it is reflected downward onto work surfaces. Since it offers less surface glare when viewed from below normal eye level, shades or blinds over the glass block panel are not required.

The improvement is accomplished by "azimuth-correcting" ribs on the outside face of the block. These ribs accept light when the sun is at an angle, and thus increase the amount of light transmitted during the day.

**Publish Detailed Report
on 'Weather and the
Building Industry'**

Publication of the proceedings of its research correlation conference, "Weather and the Building Industry," has been announced by the Building Research Advisory Board of the National Research Council. William H. Scheick, former head of the University of Illinois Small Homes Council, is the board's executive director.

The proceedings are published in book form with paper cover, containing more than 100 8½x11-inch pages, illustrated. Copies will be distributed to persons who paid the registration fee at the conference and additional copies are available for purchase from BRAB, 2101 Constitution Ave., Washington 25, D.C.

2 NEW Leigh BUILDING PRODUCTS

*Now added to the famous Leigh Line
of Building Products*

ALL Metal FLOWER BOXES

Here is a truly attractive flower box that will add sparkle to any home. It costs less than the ordinary wood box and is mighty easy to install. No cutting or fitting, just screw to the wall. 30" long, 6 $\frac{3}{4}$ " deep with a 10" projection. Complete with screws.

Finished in infra-red baked enamel, 2 coats. 3 colors — Tile Red, Blue or Green.

Built of corrosion resisting DOUBLE-PROTECTED Steel. Packed 2 per carton.

Screen Door PUSH BARS

Smart styling and rugged construction make the Leigh PUSH BARS a necessity on screen doors.

Built of heavy gauge steel for hard usage. Painted two coats of gleaming white enamel. 2 sizes — for 32" and 36" screen doors.

The finest in Permanent Metal Door Canopies and Window Awnings

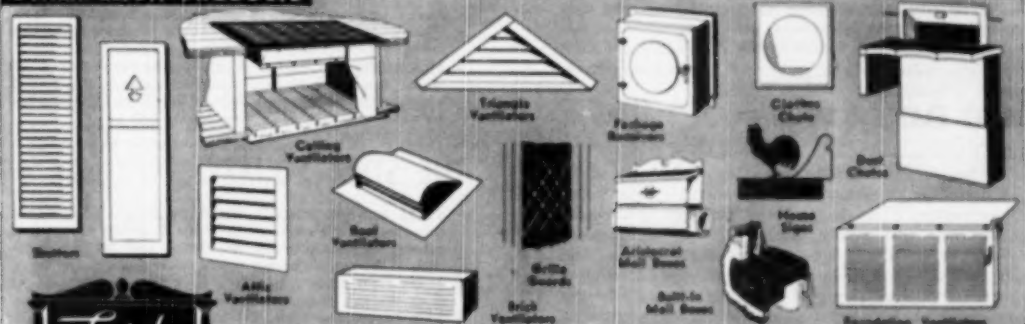
Leigh Door Canopies and Window Awnings are designed and priced for the average home. They are beautifully styled and built in one-piece construction — no assembly problems. Built of heavy gauge corrosion resisting DOUBLE-PROTECTED Steel. Available in 3 infra-red baked colors — Tile Red, Blue or Green.

DOOR CANOPIES — to sizes 48" and 54" widths, 30" projection, 6" deep. Complete with screws and brackets — Packed one per carton.

WINDOW AWNINGS — three sizes 30" 36" and 42" widths, 20" projection. Inside of awnings are painted white for lighter rooms. Complete with screws and brackets — Packed one per carton.



OTHER LEIGH PRODUCTS



Write today for the LEIGH catalog and your nearest LEIGH Building Products source.

AIR CONTROL PRODUCTS, INC.
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BOOK REVIEW



WHAT with this fine summer weather bursting out all around, building men cannot be blamed if now and then their thoughts turn from the job in hand to some more personal construction plans that they may have up their sleeves to get started just as soon as time and spare cash on hand permit. Such projects, say, as that fishing cabin in the lake country of Wisconsin or the beach cottage on the New Jersey shore, or even that outdoor fireplace in the backyard are well worth a builder's consideration not only for his own good use but also as extra income producing jobs that he can do for his clients. Such being the case, the following three books can be read by a builder or contractor for pleasure and/or for profit depending on which is most on his mind at the moment.

CAMPS AND COTTAGES: How To Build Them

by Charles D. White. 260 pages, illustrated, 6 1/4 inches by 9 1/2 inches. Thomas Y. Crowell Company, \$3.50. No. 3 on opposite page.

This book is a good friend and like all good friends it has stood the test of time and hard usage. Here is what the reader will find in it: Fourteen floor plans of camps, cottages, and guest houses; clear step-by-step descriptions telling how the camps are built; the various kinds of lumber, doors, sills and windows that can be employed in the building; and a lot of sound information on location, tools, materials, foundation, framing, paints, trim, concrete, furniture, and fireplaces. When you add to all this more than 100 well chosen detail drawings then you have a book that is well worth every cent of \$3.50 you spent for it.

SUNSET CABIN PLAN BOOK

64 pages, illustrated, 6 1/4 inches by 9 1/4 inches. Lane Publishing Co., \$1.50. No. 29 on opposite page.

Here is another book that a builder will find valuable because of the number of sound ideas it presents on cabin design and layout. There are 30 pages of floor plans and outside elevations which greatly simplify the job of choosing either the type of cabin you want to build or specific details of cabin construction that can be worked into a summer home you might plan yourself. In addition there are a good many miscellaneous drawings to be found here that will aid in doing a first class job on a cabin or cottage. Because this book is published on the West Coast and most of its designs have western origins it is especially recommended to builders in that area.

SUNSET BARBECUE BOOK

96 pages, illustrated, 6 1/4 inches by 9 1/4 inches. Lane Publishing Co., \$1.50. No. 29 on opposite page.

This, too, is a fine little book that comes from out of the West, yet since the information it contains is today popular everywhere it can be read with profit by builders the country over. Incidentally, don't be misled by that word barbecue in the title because, as the publishers point out, barbecue has by now come to mean any kind of a fireplace or stove on which outdoor cooking is done. Here are designs and instructions for every kind of barbecue, old-time roasting pits, grills, fireplaces and combination grills and fireplaces that anyone would be apt to want to build. Not only does it tell how to build them but it describes how to use them and what to use. Just looking at the book's dozens of drawings is enough to make a man's mouth water. Recommended.

A SPECIAL

Here's an easy way to get new essential information that will help you increase your income. Every volume a standard work by leading authority. Remember—it's the informed builder who is the successful builder.

ESTIMATING

1. **THE BUILDING ESTIMATOR'S REFERENCE BOOK and Vest Pocket Estimator** (not sold separately). By Frank R. Walker. Contains latest estimating and cost data on everything that goes into house construction. Most complete compilation of estimating and cost data available. \$10.00.
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THE STEEL SQUARE

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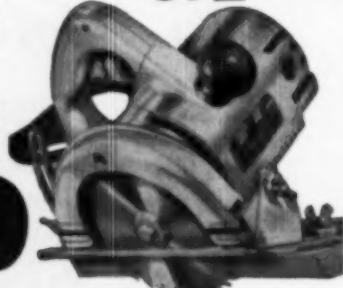
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Letters

(Continued from page 33)

house. The plates and the first floor joists are not right on top just as he needs them, nor are any of the other items. His carpenters at high wages are forever rummaging through the piles to get what they need.

If he had bought from a local yard, he would have had the plates and joists delivered on the first load, then his subfloor, studs, etc., as he needed them. One of the most important points—he would not have to pay for any of it until the 10th of the following month, and by that time he could make a draw on his loan. Do you think he saved any \$15 per thousand?

Perhaps you refer not so much to the individual builder as described in the above example, but to a large volume builder who can buy a whole car of 2x10's or 2x4's. We contend just the same that if he keeps books correctly, he will have the retail yard's expense. What is he going to do with his leftover and unbalanced items? The retail yard has other lines of customers where he can dispose of these items. If the builder has to look around to find places to sell these items, then he is just a retailer doing building on the side.

We just have not ever been shown where the medium or small operator can save a cent. Perhaps some builder who gets up in the bracket of 300 homes or more in one locality saves some on his direct buying but still we do not believe it is anywhere near what he thinks it is.

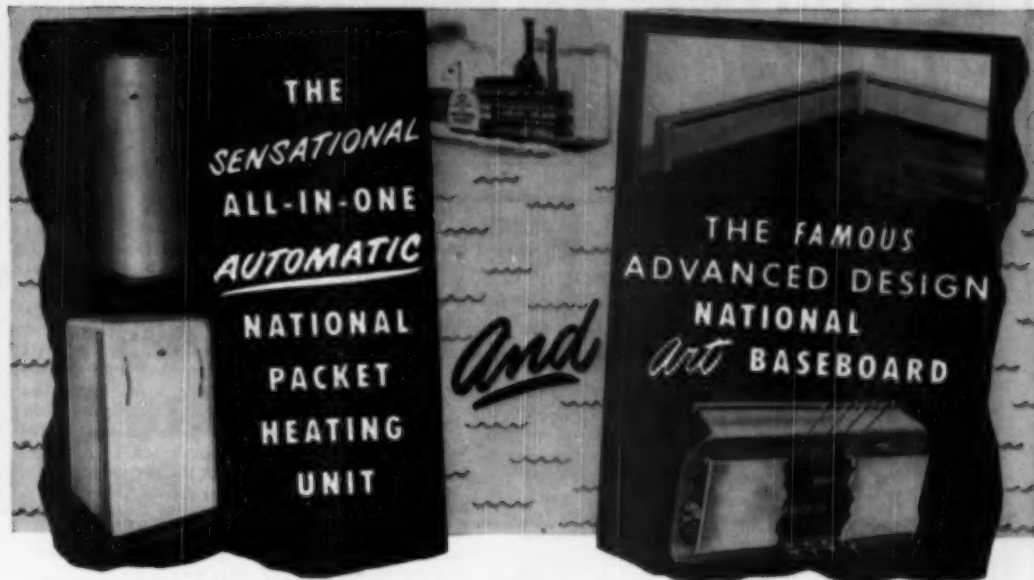
Irving B. Waterbury, Secretary
Cleveland Lumber Institute
Cleveland, Ohio

Editor's Note: Thank you for your very interesting letter of March 23. I fail to see from it where we have any area of disagreement. The reason is that I point out in the second paragraph of the editorial that "... their services in the distribution process have been proved over more than 150 years to be the most efficient and economical yet devised in an open competitive system." Having established that premise, I draw two possible conclusions. One of them is the one you refer to—that some dealers have failed to keep pace with development; the other is exactly what you point out.

What I am trying to do is to indicate that exactly the argument you cite is the argument which many lumber dealers fail to recognize or to use. There is no question

(Continued on page 182)

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Fig. 700-701

PIPE STRAPS

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Fig. 400

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Fig. 540

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Fig. 550

PAINE FLATTENED END LAG SCREWS

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Letters

(Continued from page 180)

whatever in my mind that the retail lumber dealer who is being bypassed, as per the example you set up, is bypassed only because he has not pointed out to the builder all of the hidden expenses which must be incurred if the builder buys direct. I am in thorough agreement with your statement that you have not ever been shown where the medium or small operator can save a cent by direct buying. The only change I will make in that statement is to add the large operator in the same category.

I still think that the only real reason why retailers are being bypassed is that they are not sitting down with their builder customers and explaining the situation to them just as you did in the letter you sent to me. If you and I do have any area of disagreement it is on this point, but I do not see, Mr. Waterbury, how the builder can be expected to discover for himself that he is wasting money when he buys direct. I still think the burden of the proof is with the retail lumber dealer.

Women In Architecture

Sir: I note that you are attempting to open the field of architecture to women and I commend you in this worthy cause. However, my own experiences have made me dubious about the goal a woman architect can hope to attain. It took a war to open the field for me. Due to the shortage of male architects, I broke into the field first as an illustrator and later was given a position as an architectural designer of prefabricated homes. I still hold this position, although I feel that I have achieved my maximum as an architect.

It does not make for happiness to be plagued with the belief that my progress in architecture is halted at the age of thirty-one. I believe that so prominent a magazine as the *American Builder* can do a great deal toward putting across to the American public the idea that women can and should be recognized as architects. What future do you see for women as architects?

Will you accept my congratulations for the fine principles behind the contest program. I sincerely hope that the winners, if enthused into making

(Continued on page 184)

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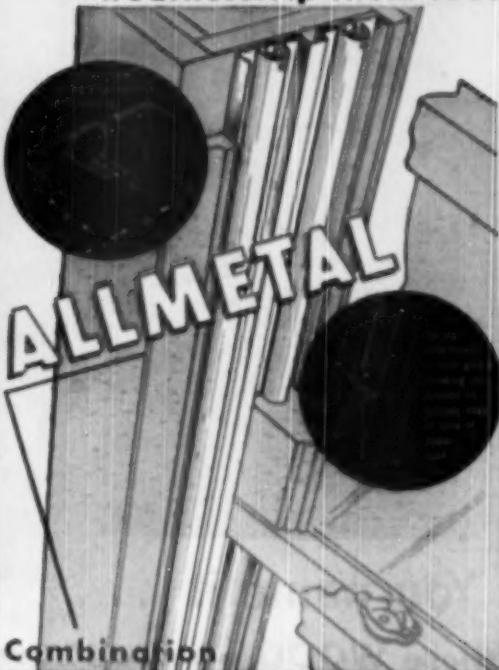
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Letters

(Continued from page 182)

architecture their career, will not later be disillusioned by a public that does not appear ready to accept them because of their sex.

Elizabeth M. Jablonsky
Trenton 9, N.J.

Dear Miss Jablonsky: There was a time when architects, builders and others in the building trades and professions looked in the opposite direction when a woman architect applied for a job in this field. However, we believe that day has passed; that there is a growing acceptance of women in the architectural field.—The Editor

Practical Job Pointers

Sir: I don't like to be critical but I think contributors to the "How-To-Do-It" department should be required to own a copy of "Practical Job Pointers"—or maybe the one who checks on contributions should consult that very instructive volume. The April issue publishes two ideas, a saw depth gauge and a method of cutting the moulding on screens (pages 110 and 126) and both ideas appear in Practical Job Pointers, the moulding cutting idea being much better shown in the "Pointers." Sometime ago there was shown a bench stop that has been used by carpenters for years. I saw it in a very early copy of "Job Pointers" years ago. . . .

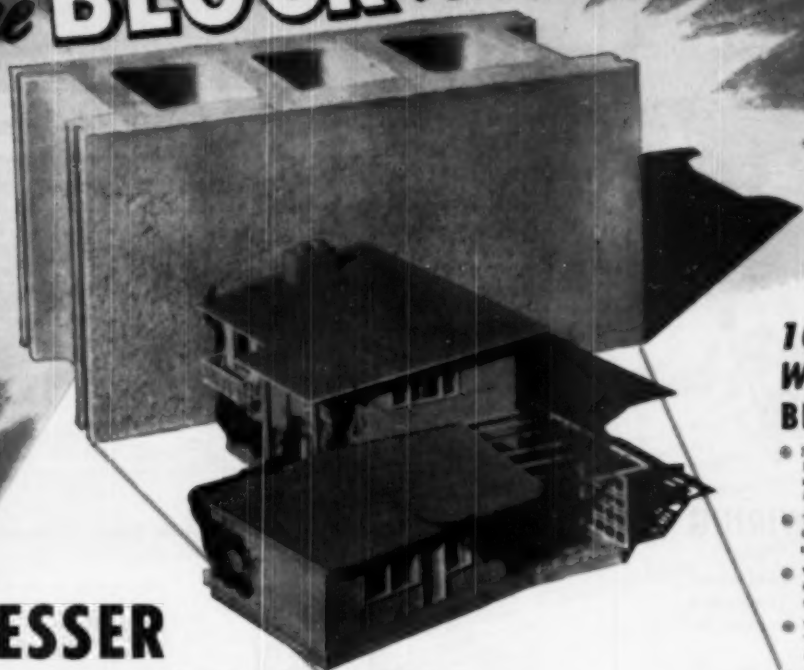
Arthur F. Taggart

Dear Mr. Taggart: We appreciate your interest in our column, and we feel that criticisms are helpful. The two ideas you refer to—the saw depth gauge and method of cutting moulding on screens—and others of this type are offered for the benefit of many of our new readers who are journeymen just finishing their apprenticeship who possibly have not become familiar with many of the short cut methods you and others are familiar with. Ideas of this kind are usually set up in the Apprentice Craftsmen column.—The Editor

American homes, like the families they house, have shrunk slightly in size during the past 50 years. However, the National Association of Home Builders points out, today's homes are better built, better designed and can be purchased on financing plans to meet nearly all incomes.

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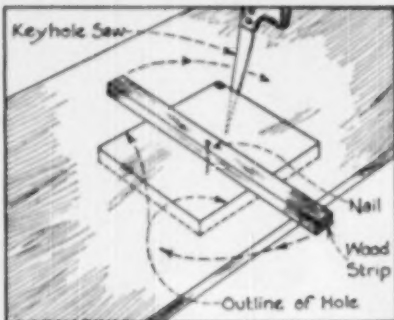
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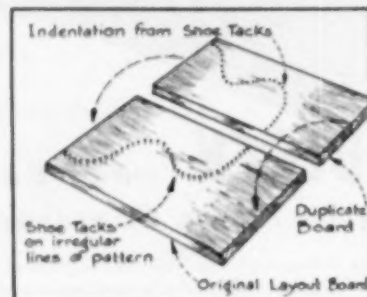
IDEAS for Apprentice Craftsmen

How to Hold Scrap Piece While Cutting Hole

When cutting a round or square hole in floor or wall hold scrap piece in place by laying a wood strip across the mark where the hole is to be cut. Drive a casing nail through center of strip and into scrap. Drill hole and cut along line with keyhole saw. When saw comes to strip force it aside and continue cut. The scrap piece can be retrieved by lifting the wood strip.—Submitted by Herbert E. Fey, New Braunfels, Texas.



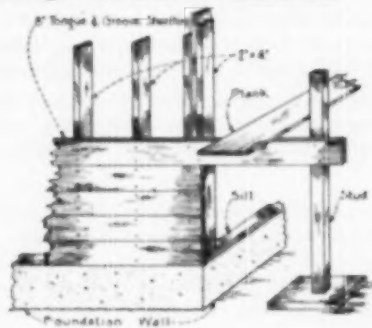
How to Transfer Irregular Lines from Layout Board



The indentations will show the pattern.—Submitted by Herbert E. Fey, New Braunfels, Texas.

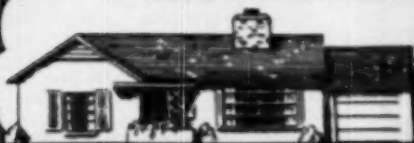
How to Make Built-in Ledger Boards for Scaffolds

A scaffold support can be easily and quickly provided by extending a member of the horizontal wall sheathing four or five feet beyond wall surface. The built-in ledger board does not interfere with the building paper that is applied over the sheathing before application of shingles or siding. To dismantle it only requires sawing the board flush with the corner of wall. This method offers greater safety in use.—Submitted by Erwin L. Schwatt, Atlantic City, N.J.



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on; and very practical for use on walls in buildings which are not constructed soundly enough to support walls faced with heavy marble or clay tile.

Asphalt tile can be applied to any smooth, thoroughly dry plaster, Sheet-rock, plywood, or hardwood wall. Room temperature must be 70 degrees Fahrenheit or more while installing the tile.

All holes and cracks in the walls must be filled in with a latex-type patch, made especially for skim coating and smoothing up rough and worn spots. The patch is allowed to dry and then sandpapered smooth. New plaster walls must be primed with a wall tile primer. It is important that walls be free from all loose or scaly plaster before applying primer with a brush.

Level Starting Line

The starting line must be level and should be slightly less than the height of one tile up from the floor at lowest point in room so that any unevenness in the floor can be scribed and cut from the bottom row of tile. A carpenter's level and straight edge can be used to establish a level line. A thin wood strip tacked along the level starting line will support and prevent the tile from sliding or sagging until the

adhesive has set hard. The wood strip may be removed after the adhesive has set (about 2 hours), then scribe and fill in the bottom row of tile.

Wall Base

If a wall base is to be used the level starting line should be established $\frac{3}{4}$ inch below the top of the wall base line so an apparent full tile will show along the top of the base. Space between the bottom of the wall tile and the floor is then filled with any tile available. The wall base is then set against the asphalt tile wall.

The wall tile adhesive should be applied with a notched trowel. Spread the adhesive over a small area (sufficient for six to eight squares at a time), then immediately start setting



ASPHALT tile is heated on back and face before it is moulded around corners

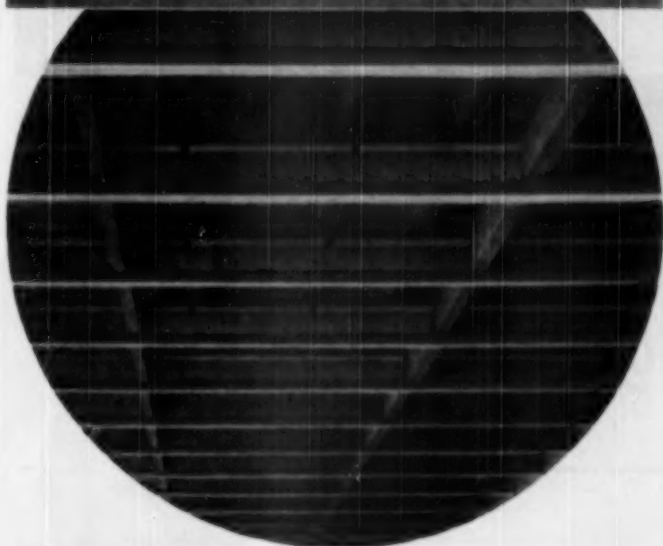
the tile up from the wood strip and against the door casing in a diagonal manner. A hand roller should be used to press tile firmly in place. The back of the tile may be heated and moulded into place with a hand roller where uneven places in the wall are encountered.

Follows Wall Contours

Asphalt tile can be moulded around both inside and outside corners by heating the tile on the back and face. Care should be taken to avoid scorching the face of the tile. After dipping hand roller in cold water the tile may be moulded in place. Fingers should not be pressed against the tiles while they are hot, as this would leave noticeable indentations. The iron hand roller must be dipped in hot water first before moulding hot tile in place. Finally, to round off the top edge of the cap, heat the edge to be rounded, lay it along the edge of a bench or table and rub with a piece of hard wood. This will round the edge and polish it as well. A good two-man crew can apply approximately 1,000 square feet of asphalt tile per day on walls, depending upon design and size of area.

LITH-I-BAR

The Better Joist for Modern Building



Everything **YOU WANT
IN AN APPROVED
LIGHT WEIGHT
CONCRETE JOIST**

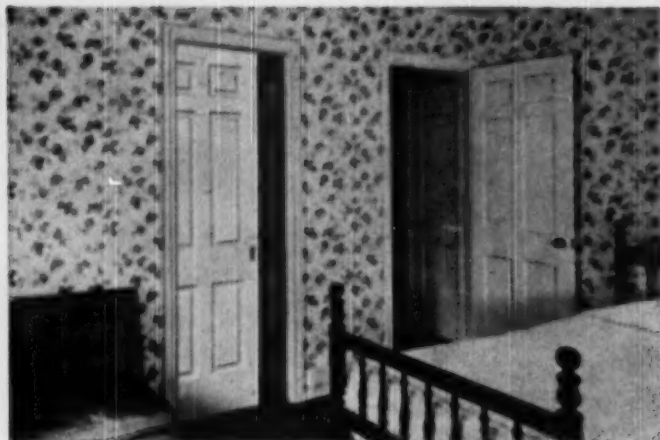
Lightweight "Lith-I-Bar" joists offer so many structural advantages and are so architecturally attractive that it will pay you handsomely to draw your plans around this modern joist construction. Lith-I-Bar joists are produced under factory controlled special mechanical process, and are available in lengths up to 40-feet and in 6, 8, 10, 12, and 14-inch heights to fit your specifications. Electrically welded steel reinforcing used throughout. Accommodating Lith-I-Bar producers are at your command in principal cities. Write us for names, and for full information.

*From the Greek, meaning STRONG



**WRITE for
this Helpful
Book — it's
FREE**

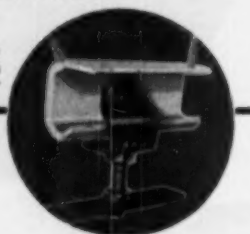
LITH-I-BAR COMPANY
DEPT. 15 HOLLAND, MICHIGAN



**"CASH IN"
... Now!**

**Recommend the NEW
VANISHING DOOR HANGER
by Richards-Wilcox**

SILVER STREAK—R-W
No. 1019 NEW Vanishing
Door Hanger and Alu-
minum Track.



Here is our latest, newest contribution to modern living convenience—an advanced sliding door hanger applicable to installation in the thinner walls of modern residential construction—R-W No. 1019 Silver Streak. Note, particularly, these desirable features:

1. The track is made of very heavy non-corrosive aluminum.

2. The highly finished ball-bearing wheels are made with solid laminations of fabric impregnated with a plastic which assures long wear and silent operation. The hanger is vertically adjustable.
3. The NEW aluminum track is easily adaptable to installation for operating parallel wardrobe doors. The tracks are simply installed back to back for operating doors as thin as $\frac{1}{4}$ ".

Another Richards-Wilcox Standout



**R-W's No. 020-3
Blue Streak**

Self-Lubrication Door
Hanger with OILITE
BRONZE BEARINGS
(Prepacked Lubrication)

For doors $1\frac{1}{2}$ " to $2\frac{1}{4}$ "
thick, weighing up to 300
pounds... on garages,
warehouses, factories,
shops, homes and similar
buildings.

1880-1950—OVER 70 YEARS



Richards-Wilcox Mfg. Co.

A HANGER FOR ANY DOOR THAT SLIDES
AURORA, ILLINOIS, U.S.A. Branches in all principal cities

DOOR HANGERS & TRACKS • FINE COLORED & PICTURED • GARAGE DOORS & EQUIPMENT
INDUSTRIAL ENTRANCES • CRANES • SLIDING WARDROBE & PARTITIONS
ELECTRIC MOTORS • OPERATING EQUIPMENT

Sabers... ..

(Continued from page 124)

Naturally there is only one sure magnet with sufficient power to bring about a measure of national stability and that is home ownership, however thin the "owner" part of the transaction may be at the beginning. The mere fact that it now is easier to buy a home than a new car may save America. On the other hand, if we have lost the will to assure our future security by paying for the roofs over our heads, no matter how long it may take, then assuredly we are all washed up as a strong nation and are rushing headlong toward the horrors of a welfare state, as revealed in what already has happened in those nations which have promised security for all with little thought given to who will earn it for them.

In principle I am in full agreement with the sound premise that families should not be encouraged to bite off more than they can chew. That goes for homes, TV, radios, household equipment, vacations or anything else under the sun. So far so good. Nevertheless it must never be forgotten that the very foundation of our free enterprise system is based upon the theory that things should constantly be made better and that the power of advertising and selling should be kept in full force in order to make people want to own them as rapidly as they are produced.

Such being the case, it was only natural that families should have rented places to live and then filled with things that were easier to buy than homes... which naturally included a new car at frequent intervals. The ease with which these obligations were incurred and the lack of security afforded by the purchases must be recognized as one of the major causes of our national restlessness. Far too many families are not anchored to any particular community and are conscious constantly of the fact that they do not own any part of the roofs over their heads.

But it's different today now that it is as easy to buy a home as a new car. Presumably there are good reasons for the great apprehension felt by many that it has now become far too easy to buy a home... that prices are too high already and that a continuation of the boom will only serve to send them higher... that people are assuming obligations they will be unable to meet... that home values will drop and unlucky purchasers will be left holding the sack. And so on ad infinitum.

As an offsetting factor to this oft-

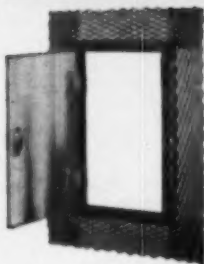
(Continued on page 192)

Milcor Steel Access Doors: 11 different sizes — from 0 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " to 24 $\frac{1}{2}$ " x 36 $\frac{1}{2}$ "; ready to install on standard framing; painted with rust-inhibiting prime coat; concealed hinges; flush, screw-type lock.



Indispensable-
and invisible
'til you need
them...

MILCOR Steel Access Doors



With or without expanded metal flanges, for plastered or non-plastered walls.

Here's real functional beauty for fireproof interiors! Milcor Steel Access Doors are flush to the wall. Paint or paper right over them and your wall is smooth and beautiful — but you have instant access to key points of wiring, piping, duct work, or controls.

Quick, cost-saving installation. These steel doors last a lifetime. Every home needs at least one, large buildings need hundreds. Available in a complete size range.

Full details in Sweet's. Or write for a free copy of the new Milcor Manual. No obligations.

INLAND STEEL PRODUCTS COMPANY

Formerly Milcor Steel Company

4025 WEST BURNHAM STREET • MILWAUKEE 3, WISCONSIN

Baltimore 24, Md. • Buffalo 11, N. Y. • Chicago 9, Ill. • Cincinnati 25, Ohio • Cleveland 14, Ohio • Detroit 2, Mich. • Kansas City 8, Mo.
Los Angeles 23, Calif. • New York 22, N. Y. • Rochester 9, N. Y. • St. Louis 10, Mo.

COMPARE!

- SEE FOR YOURSELF WHY
- **GLIDE-AWAY**
- IS THE OUTSTANDING
- OVERHEAD-TYPE DOOR



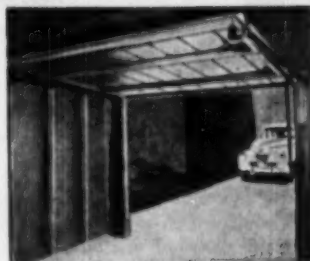
● **LIFETIME PROTECTED AGAINST RUST AND CORROSION** because Glide-Away Doors are made of paint-lock steel which is Bonderized and zinc coated . . . and for EXTRA protection they are covered with a prime coat of infra-red-baked paint at the factory.

● **EASIER TO INSTALL** because the one-piece jamb strip and weather seal is pre-assembled.

● **CABLE-CONTROLLED DOUBLE DOOR LOCK** permits fingertip operation from the garage interior without disturbing outside lock.

● **ONLY 16" OF HEADROOM** is required.

● **GREATER RIGIDITY** because of the heavier gauge inside structure and double hat channel section construction.



Glide-Away space-saver, jamb-type hardware does not sacrifice interior space. Arms are welded steel construction. Again we say: "COMPARE BEFORE YOU BUY".

STEEL DOOR DIVISION
STAMPING PRODUCTS
AND MFG. CO.

14001 INTERVALE • DETROIT 27, MICH.

Stamping Products and Mfg. Co.
Steel Door Division
14001 Intervale, Detroit 27, Mich.
Please send detailed information on "Glide-Away" Garage Doors.
I am a ☐ Wholesale, ☐ Dealer, ☐ Builder
NAME _____
ADDRESS _____
CITY _____ STATE _____

Scherson...

(Continued from page 190)

expressed fear, I have been eyewitness to what has happened to a young couple that couldn't find a decent place to live at a price they could afford to pay. The wage earner and his worried wife were beginning to entertain thoughts entirely unworthy of good American citizens . . . an easy prey to the labor agitators who kept stirring things up in their industry. They leaned strongly to the belief that "something is wrong somewhere" until they finally became less and less apprehensive concerning the dangers of the Red menace and more and more inclined to listen to the siren song of the vociferous advocates of the great blessings of the welfare state.

Finally they "bought" a home . . . a small cottage, to be sure, but neat and cozy—and in a good location. True they had little to pay down but the monthly installments were less than they had been paying for tiny quarters in a gloomy apartment building. Promptly they began to talk of "our" home, "our" yard, "our" garden. Their four rooms became their pride and joy. Instead of buying a new car, as had been their original purpose, they suddenly discovered the old car was in perfect running order and good for many years to come, especially since they now found it more fun to stay home than to roam restlessly in search of something to make up for the aching void that stemmed from living in unsatisfactory quarters. At long last they became a part of the community. The strident complaints of agitators now grate on their nerves as they count their blessings and enjoy a new peace of mind that comes with their active participation in the affairs of the friendly church up the street where they meet their neighbors and enjoy again the full fruits of friendships.

Maybe they did pay too much for their home. Perhaps the down payment was too small and the term too long. It would be difficult indeed to convince them that such is the case and the last thing in the world they ever expect to do is to stop making the payments. Furthermore they are shaping their activities accordingly and are planning ahead to the rainy day which they expect to come sooner or later.

Somehow or other I can't become too greatly alarmed concerning this so-called dereliction from "sound" financing. Based upon the price of boards and other building materials, the structure may have cost too much as compared with the price they might

(Continued on page 194)



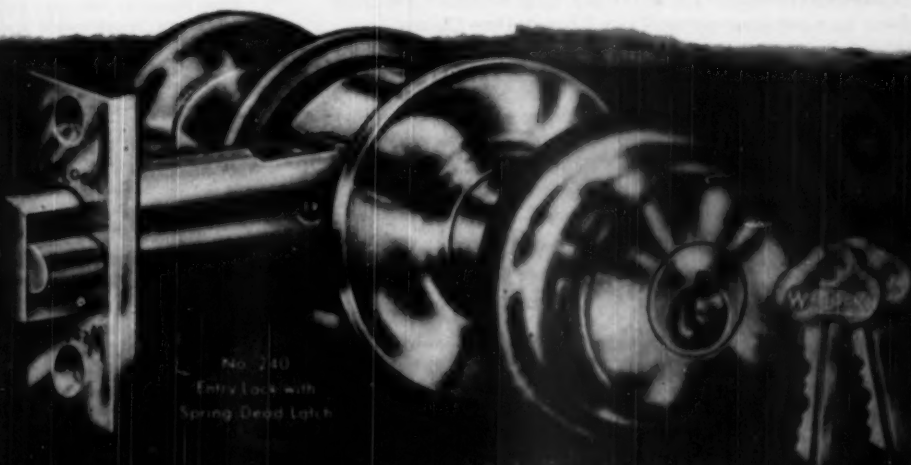
CYLINDRICAL LOCKS

...for every door in the house

Completeness of line is one of the reasons that many Architects and Builders are standardizing on WESLOCKS. This fine line has high styling plus wide acceptance and is priced to meet the most modest budgets. Why don't you standardize on WESLOCKS...they'll meet all of your requirements. Send for a complete catalog today.

WESTWOOD

MANUFACTURING CO.
1420 So. Evergreen Avenue
Los Angeles 23, California



No. 240
Entry Lock with
Spring Dead Latch

Another WESLOCK installation -
7,000 Westlake Homes, San Mateo County, Calif. - FHA Insured

Architect: Builder's Architectural Staff
Builder: Henry Daelger, Inc. Hardware Contractor: F. G. Norrison & Son

BEGIN SELLING WHERE THE SALE BEGINS!

Selling a house starts at the front door . . . and nothing makes as pleasing a first impression as the melodious response of an Edwards CHORDETTE Electric Door Chime! At today's low prices builders more and more are specifying Edwards Door Chimes.

STYLED BY A FAMOUS DESIGNER

Perfect touch to every decorative scheme is the classic simplicity of CHORDETTE . . . styled by famous designer, Lurelle Guild. In chrome and white or mahogany and brass. SIZE: 11½" high, 5" wide, 3" deep.

OFFERS 3 MUSICAL ADVANTAGES

(1) Announces front-door callers with melodious chord *continuing as long as entrance button is pressed*. (2) Sounds a sequence of two symphonic notes as a rear-door signal. (3) Unmatched tone purity assured by Edwards' exclusive Sonoscope testing.

Chordette
ELECTRIC DOOR CHIME

EDWARDS
Door Chimes

Edwards Company, Inc., Norwalk, Conn.
In Canada: Edwards of Canada, Ltd.

Fairfax DOOR KNOCKER CHIME



NON-ELECTRIC CHIME • a musical hit with everyone! Looks like a knocker...sounds like a chime! No wires, no time or trouble installing!



Suburban...

(Continued from page 192)

pay at some indefinite date in the future . . . if they could wait that long. But aren't there far greater values to be considered? Shouldn't we realize that there is nothing in the world that even comes close to the joy and satisfaction of "belonging" to an individual, or a community, or a nation. It is then and only then that our responsibilities become a pleasure and our life worth living.

By what other means can we become a part of a community or of a nation then by the roots of home ownership . . . roots that become embedded deeper and deeper as our equities increase and our attachment to the neighborhood grow stronger?

In these years of disturbing uncertainties, the unprecedented surge toward home ownership becomes our greatest hope for the perpetuation of those things we hold near and dear to our hearts. If we should lose the inclination to buy and pay for the roofs over our own heads and consider it the responsibility of the Government to provide them via public housing projects, at that precise moment hope for America will begin to wane with alarming rapidity and it won't be long before we are engulfed in socialistic ruin.

Wood-Faced Door Has One-Hour Fire Rating

A new type of fire door which carries a one-hour fire rating but resembles a conventional flush-type wood door is being manufactured by the Owens-Illinois Glass Co.

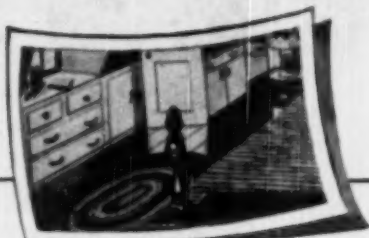
Fire resistance is provided by a core of lightweight inorganic insulation developed by Owens-Illinois and sold in various forms for numerous applications under the brand name of Kaylo.

The core material has a nominal density of 20 pounds per cubic foot. The door is standard-sized (three feet, four inches by seven feet) and weighs 90 pounds. The manufacturers said that it can support an 8,000 pound distributed load on a three-foot span with only one-half-inch deflection and is not distorted when the load is eliminated.

The new Kaylo fire door, according to the manufacturers, is the only type of wood-faced door that carries a one-hour fire rating from Underwriters' Laboratories, Inc., Chicago, the official testing agency of the National Board of Fire Underwriters, and not only formed an effective barrier against fire and smoke but was barely warm to the touch on the "cold side" after an hour's exposure to temperatures that reached a maximum of 1700 degrees Fahrenheit.

...*"and all through the house"*
STANLEY Cabinet Hardware

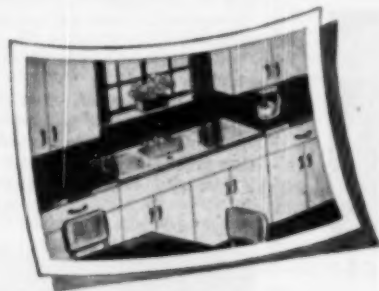
helps clinch the sale!



Solid Brass Door and Drawer Pulls



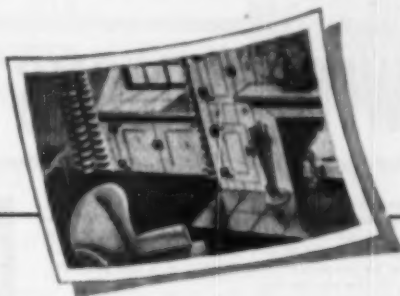
Trim, modern, practical —
 right for any room in any home



Kitchen Cabinet Hardware



Smart in appearance, efficient
 in operation — ideal for kitchen cabinets



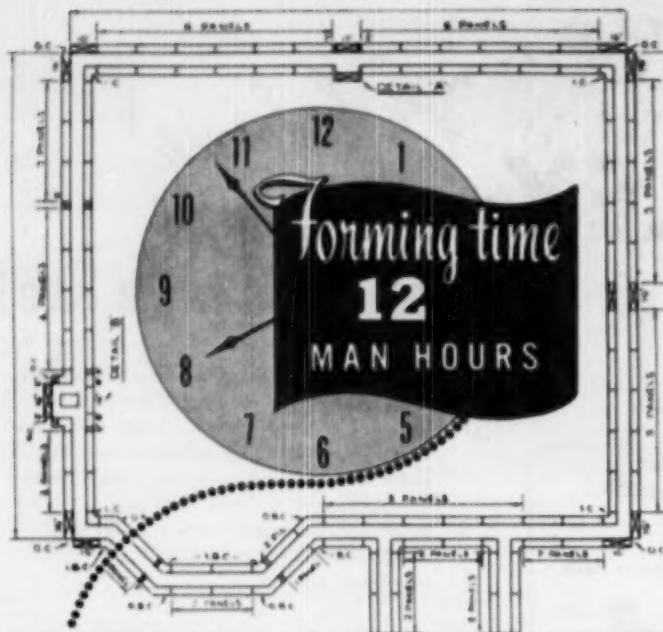
Black Ornamental Cabinet Hardware



Gives a smart "interior decorator"
 touch to any home

STANLEY
 Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL



WITH SYMONS FORMS

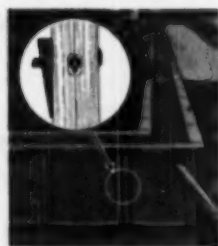
Here you see a typical house foundation form layout that can be set-up by 3 men in 4 hours. There are 1734 square feet of forms. Cost of erection at \$2.00 per man hour is \$74.00 or 1 1/2¢ per square foot. Stripping can be completed within 2 hours at a cost of \$6.00 or 1/2¢ per square foot.

TOTAL COSTS PER SQUARE FOOT OF FORMS

Setting-up	1 1/2¢
Stripping	1/2¢
Form Cost (per use)	1 1/2¢
Tie Cost	1/2¢

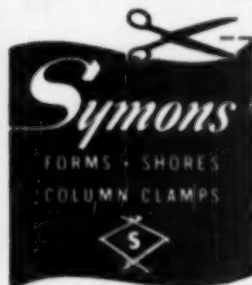
Forms average 73¢ per square foot. With 50 uses (100 uses is common) the per-use cost is 1 1/2¢. Ties hold 8 square feet of forms. At 6¢ each the tie cost is 3/4¢ per square foot.

Symons Forms are available completely made up ready for use or you may purchase the hardware for building your own forms. Forms can also be rented with 60-day purchase option. Paid rentals apply on purchase price.



JUST 3 PIECES!

1. Connecting Bolt
 2. Form Tie
 3. Wedge
- Form ties break back into concrete connecting bolts and wedges can be used again and again.



SYMONS CLAMP & MFG. CO.

4261 West Diversey Avenue, Chicago 39, Illinois

Please send me the items checked:

Information regarding Symons Panel Forms

- ☐ Catalog and Prices ☐ Construction details ☐ Samples
☐ Layout and estimate (our plans being sent under separate cover)

Information regarding other Symons Products

- ☐ Column Clamps ☐ Bar Ties and Tie Chains
☐ Safety Shores ☐ Scaffolding

Name _____

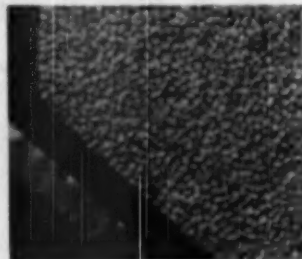
Address _____

City _____

Zone _____ State _____

New Lightweight Roofing Material Placed on Market

A new type of lightweight roofing material utilizing aluminum foil between cotton gum base layers and finished with a coating of marble or granite chips of selected color, called the "Aluma-Life Roof," is being offered for sale through Aluminum



CUTOUT sample of actual application of the Aluma-Life Roof, showing details of application of cotton gum mastic bonded on the felt, application of aluminum foil, and sealer applied on top of the foil with crushed pebbles embedded in the sealer.

Building Products, Inc., of Jacksonville, Fla. The firm is currently arranging for national distribution.

Joe Dabney, company president, stated that the material had been made ready for the market after several years of research and testing. It has been passed by the National Board of Fire Underwriters with an "A" rating and is FHA-approved. Application, Dabney said, is easy and economical, with part of the economy effected by the elimination of all metal flashing on chimneys and valleys.

Aluma-Life was described as suitable for all types of installation and as the only built-up roofing with hurricane specifications, bonded directly to wood sheathing, which can be used on pitches of 5 and 12 and up. "Its unique advantage," according to Dab-



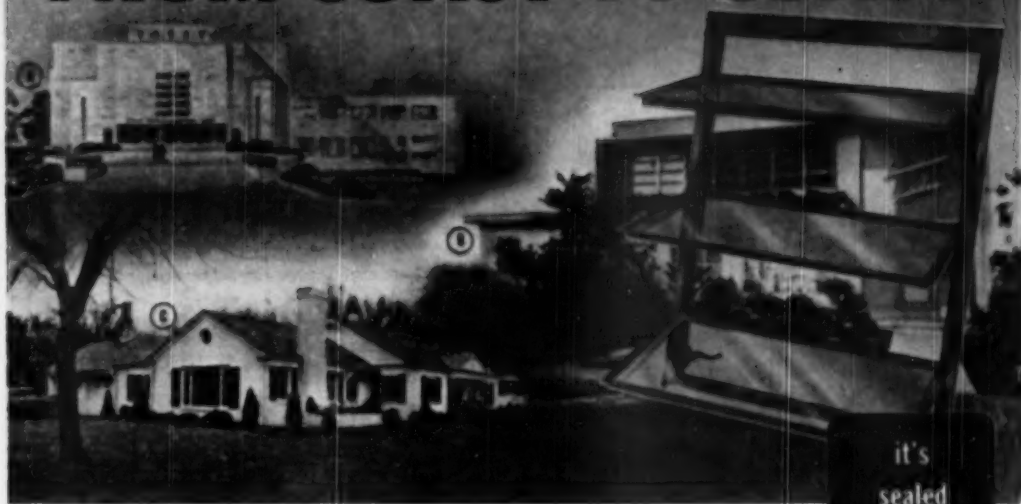
APPLICATION is 10 on 12 pitch roof

ney, "is the use of the aluminum foil inter-layer and the very stable sealing and bonding compound used throughout."

"Because of its light color and reflecting qualities Aluma-Life Marble

(Continued on page 198)

FROM COAST TO COAST



it's
sealed
like a
refrigerator

AUTO-LOK WEATHERSTRIPPED ALUMINUM AWNING WINDOW

Sets New Records for QUICKER INSTALLATION, FASTER SALES

There's something fascinating about how prospective home owners go for Auto-Lok Aluminum Awning Windows when you show them how they keep out showers—without cutting off ventilation!

But there's a lot more to Auto-Lok than that! Here's why builders *everywhere* are using Auto-Lok for *easier installation, quicker sales, happier buyers* and increased prestige for himself:

1. **PERFECT FOR USE IN ANY CLIMATE:** *Auto-Lok's* patented automatic locking hardware combines with its unique weatherstripping and double metal-to-metal contact to *seal* it tight against the worst kind of winter weather, yet *Auto-Lok* opens almost straight out for maximum ventilation.
2. **FITS ANY DESIGN:** *Auto-Lok* is the first and only window that combines all the **BEST** features of **ALL** window types. It is equally suitable for small homes, large homes, schools, hospitals, and institutions. *Sensibly priced, too!*
3. **EASY TO CLEAN:** Top vent drops down so that even the remotest corner of each vent can be cleaned from the inside.
4. **SCREENS AND STORM SASH:**—Just "flip the clip" to remove the attractive aluminum screen for cleaning. Storm sash replaces screen (no tools required).

5. **EASY TO INSTALL:**—Save time and money with *Auto-Lok's* amazing simplified installation, factory installed weatherstripping and one piece screens.

For complete information see SWEET'S or write for name of nearest Auto-Lok representative. LUDMAN CORPORATION, Dept. A-3B, P. O. Box 4541, Miami, Florida.

PHOTOS:

- (A) Adas Israel Synagogue—Washington, D.C. . . .
Frank Grad & Sons—Washington, D.C., Newark, N.J.—
Architects & Engineers. (Wm. L. Drvo, Wash. Rep.)
M. Cladby Construction Co. Inc., Washington, D.C.
—Gen. Contractor.
- (B) Brazilian Garden Apartments—Palm Beach, Florida
Howard Chilton—Palm Beach, Florida—Architect
& Owner.
- (C) Residence of Mr. & Mrs. Ralph Smith—Toledo, Ohio
R. B. Johns Co., Toledo, Designer & Builder.

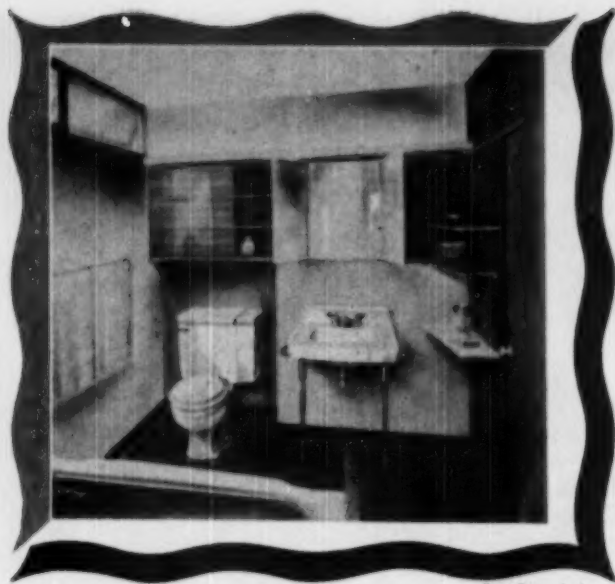
AUTO-LOK

REG. U. S. PAT. OFF.

THE *Ultimate* IN AWNING WINDOWS

ENGINEERED FOR LEADERSHIP BY

LUDMAN CORPORATION, MIAMI, FLORIDA



Ernst Payer, Architect

here's a Universal-Rundle bathroom idea



Send in your request today for detailed plans to build the U-R "Budget Bath" as shown above. Don't delay. The supply is limited.

• Here's a stunning new bathroom creation, designed with Universal-Rundle Fixtures.

Complete plans . . . handy ideas for your files . . . free for the asking!

There's no charge whatever. Send a request (on your letterhead) to Universal-Rundle. We'll forward illustration, blueprint and all specifications.

See fashionable new color combinations . . . ingenious new methods to get maximum livability from limited areas.

See how Universal-Rundle Fixtures add beauty and refinement . . . how U-R Fixtures add sales appeal to the home!

Universal-Rundle has engaged Ernst Payer, well-known architect and designer, to give you the ultimate in workable ideas. And, remember, ideas are important as dollars.

Universal-Rundle has led the industry in new developments for more than 50 years, building better bathroom fixtures and kitchen equipment, priced to fit all budgets.



NEW CASTLE, PENNSYLVANIA
Universal-Rundle
CORPORATION

SERVING THE WORLD FROM 3 PLANTS LOCATED COAST TO COAST

Lightweight Roofing

(Continued from page 196)

Snow adds attractiveness, insulating value and fire resistance. We estimate that the Alumina-Life Roof has practically as much insulation value as two inches of mineral wool. The marble or granite surfaces specified contain no color pigment and will not fade, because they are mined products of natural color. Weight of roofing is from 125 to 285 pounds per square.

"The Alumina-Life Roof" represents a new application of already tested components. Two years of research developed a cotton rubber base material that contained a minimum of carbon, one that would successfully bond aluminum foil, that was pliable yet not affected by heat or cold, that would not crawl or bleed when painted over. The base material had to be of a consistency that would hold marble and this was accomplished by the addition of asbestos fibers. The new material was called Alumina-Bond Foil Seal No. 6.

"The seal is a pure vegetable gum, containing no asphalt or coal tar and providing a natural bond for mineral finish (crushed slate, granite, marble or sand) over a steep or flat roof surface.

"The foil is in the roof for three specific reasons: (1) elimination of felts; (2) insulation value; and (3) indestructible qualities when imbedded in the Alumina-Bond, and less weight per square. The Marble Snow is also used for three purposes: insulating value, attractiveness and additional fire protection."

Waste Paper Containers Used for Advertising

An unusual advertising medium to promote sale of homes to lot owners—poster signs on waste paper containers in both the downtown district and several neighborhood business sections—is being used by W. G. Best Factory Built Homes, Inc., Peoria, Ill.

The containers are owned by an advertising agency, which has a permit from the city. City employees empty the containers but the agency owns and services them. Once a month the containers are turned one-fourth way around, so that each of the four concerns whose ads appear alternate in position. The containers have special panels built for the posters.

The Best company has a large factory where certain units of the homes are prefabricated, such as the walls and roof units. The remainder of the building is built the same as any standard construction home.

You get more built-in builder benefits when you get **DUO-THERM** gas floor furnaces



CHECK THESE PERFORMANCE-PACKED FEATURES



Exclusive Equiflame Burner. Built for long-life efficiency on all types of gas. Clean-burning, quiet. Burns a uniform flame at all ports at all stages of fire.



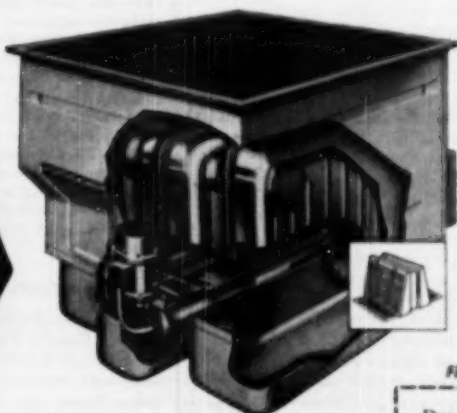
Exclusive Comfort Selector. A flip of the switch on the side of the thermostat tailors low fire setting to fit the weather. Ends on-and-off heating.



Revolutionary All-in-One Control. The first really compact, complete, easy-to-operate package control for gas heating. No pipe cutting required to convert to automatic. Automatic safety shut-off standard on all Duo-Therm Gas Floor Furnaces.



Generous 10-Year Warranty—on all models.



Over 1,500,000 Warmly Satisfied Customers

DUO-THERM
Always the Leader

DUO-THERM is a registered trade name of Motor Wheel Corp. Copyright 1960

CHECK THESE BONUS-BENEFITS FOR BUILDERS:

- All models shipped ready to install to save you time and trouble.
- So compact only *one* joint need be cut on any installation.
- Designed so that most service jobs can be done from above the floor!
- Built to one *high* standard of quality—the Duo-Therm standard. Yet priced amazingly low.
- Two Series—shallow and standard—to fit *any* home.
- The 19 Series only 23½" deep overall. The 25 Series a mere 30" deep overall.
- Choice of floor or dual-wall registers.
- Range of BTU inputs from 35,000 to 60,000.
- Thermostatic or manual controls available on every model.
- Waterproofed to meet regional FHA requirements.
- AGA approved.

CHECK DUO-THERM'S LIBERAL BUILDER DISCOUNT PLAN

Your Duo-Therm supplier has the facts on our special single and quantity discounts. You'll like the way they listen!

CHECK THE "SPECS" on Duo-Therm Gas Floor Furnaces—YOURS FOR FREE!

Just send the coupon below if you're too busy to write. We'll send you—without a penny's worth of obligation—complete specifications on all 4 Duo-Therm Gas Floor Furnaces. We'll even throw in a copy of our colorful 8-page catalogue. (It tells the Duo-Therm story in a way your prospects will understand.)

Fill out and mail coupon for descriptive literature.

Duo-Therm Div. of Motor Wheel Corp'n, Dept. AB-6
Lansing 3, Michigan.

Please send your floor furnace facts pronto, without obligation or cost.

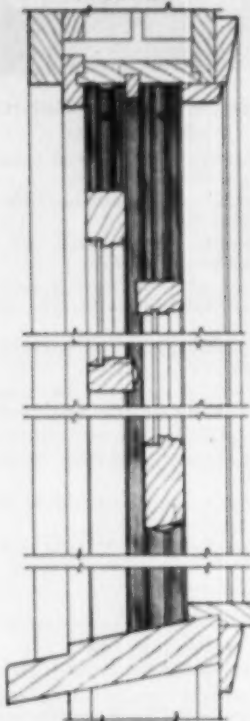
My name _____

Firm _____

Firm address _____

City _____ Zone _____ State _____

HETTINGER'S
Top Soil
PATENT 2,017,200
COMBINATION
SASH BALANCES AND
BRONZE METAL WEATHERSTRIPPING
IN ONE UNIT



SEE OUR CATALOG IN SWEET'S BUILDER FILE 34/36

COMPLETE CARTON PACKAGED

- 1st. Low cost of \$3.50 per window, any size
- 2nd. Easy to apply
- 3rd. Velvet smooth in operation
- 4th. Absolutely weatherproof
- 5th. Sales helps and displays
- 6th. Nationally advertised
- 7th. Wide consumer acceptance
- 8th. Shipments at once
- 9th. See your lumber dealer today

THE WEATHERPROOF PRODUCTS CORP.
 329 Westport Road Jefferson 3133
 Kansas City 2, Missouri

Texas Firm Develops
"Engineered Housing"

The Texas Housing Company of Dallas, Winfield Morten, Dallas industrialist, "Engineered Housing"—a new technique in home construction.

Engineered Housing is a combination of fabrication and conventional construction. Streamlined methods of construction on an assembly line basis are applied to fabrication of component parts of a residence, such as wall panels, roof trusses, door and window frames.

Texas Housing Company in its line of Engineered Houses does not manufacture standard units, but fabricates within certain manufacturing limita-



ENGINEERED Housing in Salina, Kansas

tions regarding modular dimensions, panel heights, et cetera, to the customer's plans and specifications. The company manufactures the size and type of house the customer desires, within the price range of his choosing. Economies effected through mass purchase of building materials and streamlined production lines are passed along to the purchaser.

With its Engineered Houses, a package delivery service is offered by which all building materials needed to complete the home, including hardware, and home appliances, when the customer desires to include them, are delivered direct to the building site as a package. Lumber is pre-cut to size and certain component parts of the house are panelized and fabricated in the Dallas plant to facilitate erection.

Delivery is accomplished on 32-foot flatbed tandem wheel trailers of the company's own truck fleet up to distances of about 700 miles from the Dallas plant. Freight can be computed at 50 cents per loaded mile. For distances in excess of 700 miles from Dallas, shipment by rail generally is more economical.

Distribution of Engineered Houses is effected through dealers who in most instances are contractors or builders, each assigned a definite territory in which he erects houses engineered, manufactured and delivered by the Texas Housing Company. To

(Continued on page 292)

FOURTH EDITION

SIMPLIFIED
CARPENTRY
ESTIMATING

By **J. DOUGLAS WILSON**

*Coordinator, Apprentice Education,
 Carpentry and Cabinet Making Los
 Angeles City Schools Los Angeles,
 California*

and **CLELL M. ROGERS**

*Mathematics Instructor,
 Venice High School, Venice, California*

A practical text on carpentry estimating, covering rough lumber, finish lumber and hardware, in which the parts of a house are analyzed under six main divisions. Material lists, short cut rules and tables supplement the text and guard against anything being overlooked in making up the final estimate. Valuable information is given for making labor time estimates.



While designed as a beginner's text the Fourth Edition is complete enough for the use of builders and lumber dealers. Simple arithmetical methods for accurate estimating, are given. Helpful tables that save much time in figuring and a full index make the book suitable for quick reference in the shop or on the job.

Contents

Estimating Fundamentals. Foundation Material. Framing. Exterior Finish. Interior Finish. Hardware. Building Information. Estimating Short Cuts. Labor Hours per Unit of Work. Carpentry measurement, Mathematical Reference Tables. Stair Estimating. Index. 1948. 4th. 288 pages. 123 illustrations, 60 tables, 5x7, \$3.00.

Book Department

AMERICAN BUILDER

Simmons-Broadman Publishing Corporation
 30 Church Street New York 7, N. Y.

Roddiscraft Flush Doors WIDE OPEN...FOR PROFITS



A One-Two Team that Means Profit for You . . .

- THE BIGGEST BUILDING BOOM IN HISTORY
- MOST COMPLETE LINE OF FLUSH DOORS AVAILABLE

Now's the time to cash in on the biggest building boom in history. This year's first quarter residential building ran 45% above 1949's. Move in on this tremendous market with a complete line of flush doors—Roddiscraft. When you handle the complete Roddiscraft line, you'll be able to meet every flush door requirement from small residential to large commercial needs . . .

doors for small residences • doors for schools • doors for hotels • doors for offices • doors for hospitals • doors for housing projects • doors for X-ray protection • doors for restaurants • doors for fire protection

And don't forget! Roddiscraft is repeat-order business. These doors stay sold and bring in new orders . . . because architects and builders recognize Roddiscraft quality backed by over a half-century's tradition.

A national warehouse service from coast to coast is ready to serve you with prompt deliveries. Contact your nearest warehouse or write us for the Roddiscraft catalog. The door's wide open for big profits in 1950 . . . selling Roddiscraft flush doors.

Roddiscraft

RODDIS PLYWOOD CORPORATION
MARSHFIELD, WISCONSIN

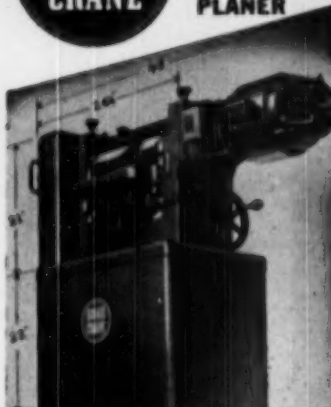
NATIONWIDE Roddiscraft WAREHOUSE SERVICE

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Cincinnati 2, Ohio . . 437 E. 51st St. Milwaukee 8, Wis. . . 4401 W. Stone St.
Dallas 10, Texas . . 2000 Modell St. New York 33, N. Y. . . 920 E. 147th St.
Detroit 14, Mich. . . 11855 E. Jefferson St. Port Newark 2, N. J. . . 105 Marsh St.
Houston 10, Texas . . 2425 Sabine St. Philadelphia, Pa. . . Part S. N. Delaware Ave.
Kansas City 2, Kan. . . 25-33 Southwest Blvd. St. Louis, Mo. . . 3344 Morganford Road
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**Over 50% FASTER
than Similar Units**

**BOICE
CRANE**

**HEAVY DUTY
12" x 4"
THICKNESS
PLANER**



**POWERED FOR OUTPUT
OF 14 FEET PER MINUTE**

the only planer that includes every essential feature of larger, more expensive planers at \$20.00 to \$100.00 under what you would expect to pay.

BUILT FOR EXTRA LONG LIFE

Thousands of successful installations, dating back ten, fifteen and more years. (Machine serial No. 1 still operating daily, having planed millions of feet of hard wood.)

Of intermediate capacity, the Boice-Crane handles jobs impossible on larger planers—such as planing material as short as 6 1/2'; planing hard woods down to 1/4" thick, smooth as silk and to a thousandth of an inch precision without tearing. Saves big money by salvaging short and thin scrap. Eliminates expense of having certain small jobs run outside.

Massive, one-piece main frame. Has the extra weight others lack for real noncommercial hard use. Powerful, ground steel infixed roll. Two table tilting rolls—when omitted in inferior machines. Power driven rolls in bronze-bushed self-aligning journals—automatically adjust when work thickness varies—an exclusive feature. The full range of adjustment.

A FINER FEED MECHANISM

No troublesome clutch. Quietest, instant power feed control without stopping the motor, engine or shaft power.

12 1/2" x 30" TABLE

Thick walls and exceptionally well ribbed, table casting, above flat and true. Choice of 1 1/2 and 2 H.P. direct to rubberhead, or V-belt motor drive. Bench or complete floor type units.

Boice-Crane with its complete line of durable intermediate capacity power tools, can, at minimum cost, completely equip contractors to be practically independent of the mill.

BOICE-CRANE COMPANY

"World's Largest Builder of 12" Planers"

966 Central Avenue Toledo 6, Ohio

Planers and Saw literature on Boice-Crane

☐ Planers

☐ New 48-page Catalog No. 30 on entire line

☐ Bulletin on Tree-Farm Safety Culture for Shopmen

NAME

FIRM

STREET

CITY & STATE

Engineered Housing

(Continued from page 200)



MODEL TG Engineered House is frame

illustrate: Town & Country Homes, Inc., of Salina, Kansas. Nathan L. Jones, President, is distributor for Engineered Houses in Kansas and southeastern Colorado. During 1949 Town & Country Homes enlisted about a dozen contractors and builders in all parts of Kansas who erected and sold nearly 600 homes for individual purchasers. The same company now has under erection more than 200 homes in about a dozen towns in southeastern Colorado, as well as about 500 more homes in towns throughout Kansas.

Recently Town & Country Builders, Inc., of Dallas, has been organized by Jones to distribute Engineered Houses in Texas and Oklahoma. Housing projects have been launched in many towns in Texas, including Garland, Rockwall, Terrell, Ennis, Italy, Henrietta, Sweetwater, Rotan, Roby, Big Spring, Cleveland, Livingston, Hous-

ton and Dallas, with an average of about fifteen homes in each project. In many towns as many as fifty homes have been sold.

These companies offer a complete service for the home purchaser, including all architectural and engineering services in connection with the planning and designing of the home, land acquisition, financing and actual construction. The home purchaser is offered a turn-key home building job for a fixed price stipulated at the time he signs a contract.

Contractors and builders erecting Engineered Houses, do all necessary site improvement, including foundation, in advance of the arrival of the house. The contractor then advises Texas Housing Company that he desires the packaged house to arrive at his building site at a specified time, and the delivery truck is so timed that it arrives at the specified hour.

As wall panels, fully framed and sheathed on exterior, are unloaded from a truck they are put in place and erected. Only one handling is necessary. The walls can be erected in a few hours. Roof trusses then are put in place and the roof is applied. Generally a house can be completely closed in the first day. This provides storage for pre-cut lumber and other building

(Continued on page 204)

**Ask for a "BESSLER" when buying a
DISAPPEARING STAIRWAY**



With a Bessler Disappearing Stairway it is possible to finish off the space above for use as either storage or added sleeping quarters.

Constructed of the finest materials, it is easily and quickly installed in old or new homes. Saves floor space in the room below and is easily operated.

**Made in
Seven
Models**

Write for literature

THE BESSLER DISAPPEARING STAIRWAY CO.
1900 E. Market St. Akron 5, Ohio

Reversible

TO HELP YOU LOWER BUILDING COSTS

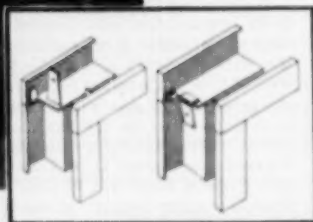


Richmond UNIVERSAL KNOCKDOWN
STEEL FRAMES

Richmond steel frame jambs are reversible so they can be used for either hand of the door. Hinges are welded to hinge jamb the same distance from either end. Latch cutout is centered in latch jamb. Jambs can consequently be used on either side of frame. Being reversible and coming in three pieces makes ordering easy and reduces to a minimum storage space required.

Check These Features

- ✓ Low in cost—sturdy in construction
- ✓ Made of best quality 18-gauge steel
- ✓ Available for interior and exterior openings
- ✓ Frames are neat appearing, stable, durable
- ✓ Rolled sections insure accurate dimensions and perfect fit when assembled



- ✓ Hinges welded to jambs in manufacture
- ✓ Jamb members are equipped with clips for nailing to studs or strap anchors for masonry walls
- ✓ Frames eliminate need of casings
- ✓ Red oxide primer coat baked on at factory
- ✓ Sizes: Width—1'6" and up in 3" multiples
Height—6'6", 6'8", 7'0"

EASY TO ASSEMBLE

Frames readily assembled on job. Just insert metal tongue of jamb into mortise in head member and band sufficiently for firm, square connection.

THE

Richmond 
FIREPROOF DOOR CO.

*P. O. Box 97, Friends Station

Richmond, Indiana

MAIL COUPON NOW
for full information about Richmond Steel Frames

THE RICHMOND FIREPROOF DOOR COMPANY, DEPT. 6
P. O. BOX 97, FRIENDS STATION
RICHMOND, INDIANA

PLEASE SEND ME booklet giving full information about Richmond Steel Frames.

NAME

BUSINESS ADDRESS

CITY

ZONE

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POSITION

TYPE OF BUSINESS

**Avoid costly errors
with this . . .**

NEW UNIVERSAL Level Transit



Price \$145.00
complete with tripod



Now David White offers you, at the lowest price anywhere, the finest of Universal Level Transits with $4\frac{1}{2}^\circ$ protected arc, internal focusing and coated optics.

Don't wait if you're in the market for a new all-round practical builder's instrument — see the improved new David White Model 3000 Universal Level Transit now.

You'll find this instrument properly used will be your best insurance against costly layout and building errors. The new $4\frac{1}{2}^\circ$ protected arc means easier, more accurate readings, less likelihood of instrument damage through accident. Internal focusing assures you of dust and dirt-free inside lens surfaces, better protection for optical parts and mechanism. Coated optics mean clearer, distortion-free images, sharper definition, positive readings at greater distances and under adverse conditions. Instrument spindle supported on ball bearings for perfect horizontal adjustments.

Ask your nearest dealer to give you complete information on this and other fine engineering instruments. Or write direct to David White Co., 311 W. Court St., Milwaukee, Wis.

We offer complete, prompt repair service on all makes of instruments — levels, transits, theodolites, etc.



Engineered Housing . . .

(Continued from page 202)

materials. It also eliminates weather as a delaying factor, as workmen can work indoors.

In addition to the manufacture of Engineered Houses to plans and specifications of the individual customer, Texas Housing Company and its affiliate, New Mexico Housing Company of Santa Fe, New Mexico, bids on many government and other large construction jobs. These companies have recently completed a \$4,000,000 contract for the Atomic Energy Commission, under which a complete town of nearly 500 separate structures was built at White Rock, suburb of Los Alamos, atomic bomb center. The same companies also completed in February manufacture and erection of 105 specially designed pueblo-style, three-bedroom homes of 1280 square foot floor space each, at White Sands Proving Ground, New Mexico, for the Army and Navy, under contract for \$1,083,215. Texas Housing Company also manufactured and delivered 120 two- and three-bedroom houses to Camp Hood, near Killeen, Texas, for the Air Force, for more than \$1,000,000.

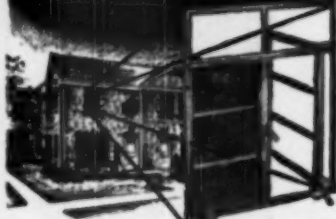
Testing Service Arranged By Vermiculite Institute

All members of the Vermiculite Institute have subscribed to Underwriters' Laboratories, Inc. re-examination service for vermiculite plaster aggregate. E. R. Murphy, executive secretary of the group, announced recently.

Underwriters' Laboratories, a non-profit organization, was founded in 1894 as the official testing station of the National Board of Fire Underwriters. One of the major reasons for its establishment was the new fire hazard created by the first large-scale use of electricity at the Columbian Exposition in Chicago in 1893. Insurance interests authorized William H. Merrill, a young engineer, to respond to each fire alarm from the fair grounds and, if the fire was of an electrical nature, to locate the defective device and investigate its performance and construction.

The insurance industry was also sponsoring an investigation of automatic sprinklers in the Chicago area by William C. Robinson. Merrill and Robinson joined forces to consolidate their laboratory equipment. From this small beginning, the work has been greatly expanded, with Underwriters' approval now being recognized as a seal of safe performance for materials, devices and construction.

Real Profit Builders Ualco Lifetime ALUMINUM CASEMENT WINDOWS



. . . in Modular Sizes, Tool

When bidding or planning construction of apartments, housing projects, or any type of residential or commercial building, you'll find countless advantages in specifying Ualco Lifetime Aluminum Casement Windows!

Only Ualco offers you modular sizes in aluminum casement windows among the 120 sizes plus many variations . . . lowest price . . . easiest handling . . . rapid installation . . . and, superior design and construction.

For complete details write for FREE Ualco catalog. See our catalog in Sweet's Builders and Architectural file.



**Write for this
FREE
CATALOG
today!**

UNION ALUMINUM COMPANY, Inc.
Department: A-65
Sheffield, Alabama

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UNION ALUMINUM COMPANY, Inc.
SHEFFIELD, ALABAMA



THE TRUE ECONOMY HOUSE *is built with* **CONCRETE MASONRY**

Concrete masonry construction is the key to the *true economy house* because it results in *low-annual-cost* construction, the real measure of housing economy. That's one reason why concrete masonry houses are becoming increasingly popular. More and more prospective owners are learning that a concrete masonry house is:

ECONOMICAL TO BUILD. The first cost is moderate compared with other construction for the same size, style or floor plan.

ECONOMICAL TO MAINTAIN. Concrete masonry houses, being sturdy, durable and weathertight, need fewer repairs and cost less for upkeep. Even the inside is easier to keep clean, especially with concrete subfloors; they don't sag to open hiding places for dirt under gaping baseboards.

ECONOMICAL TO HEAT. A properly insulated concrete masonry house is snug and warm in winter, thus keeping fuel bills down. In summer, on the other hand, the house is cool and dry. That makes for greater comfort the year around.

ECONOMICAL TO OWN. With first cost moderate, maintenance costs low, and the life of the house long, the owner of a concrete masonry house gets *low-annual-cost* housing. Yes, it costs less to live in a concrete house.

You can build concrete masonry houses to any site or community requirements. Write today for free, helpful booklets: "*Why People Like Concrete Homes*," and "*Concrete Facts for Concrete Contractors*," distributed only in the United States and Canada.

CONCRETE HOUSES ARE EASY TO SELL

Concrete masonry's many natural advantages supply you with strong sales points for clinching sales: It is *low-annual-cost* shelter; it provides a lifetime of comfortable living; it's clean and easy to keep clean; it's resistant to storms, vermin, and termites. Best of all, concrete is fireproof. Concrete can't burn!

PORTLAND CEMENT ASSOCIATION

Dept. 6-3, 33 W. Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work



Levitt does it again for 1950

"ES-nails are cutting construction costs for us to the tune of \$250,000 a year," says Alfred S. Levitt

Cost-conscious, quality-conscious Levitt & Sons are making important savings on every house by using gypsum siding for sheathing, instead of boarding. ES-nails make these big savings possible.

ES-nails are the first "POSITIVE LOCKING" nail to let you take full advantage of all the savings and construction advantages of non-wood sheathing—lower unit cost, faster application, less waste, real weather tightness.

ES-nails are easy to apply. No special tools are required; use a regular shingling hatchet or carpenter's hammer. They are self-locking, attaching wood or asbestos shingles directly to gypsum or insulation sheathing. They can be driven at any convenient point—no need to locate studs.

For more information about the value of ES-nail construction—and the savings it will mean to you, call your supplier, or write: Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, New Jersey.

ES nail®

A PRODUCT OF

Elastic Stop Nut Corporation of America

Available through John Manville Sales Corp., National Gypsum Co., Weatherbest Corp., Green-Diast Co., Inc., Eastbury and Marston Co., and American Stained Shingle Co.



Approved by the Red Cedar Shingle Bureau, Seattle, Washington, representing manufacturers of Certificate Shingles. ®Trade Mark Reg. U. S. Pat. Off.

American Builders' Outlook Letter Analyzes Possibilities For Continued Active Market

The following letter to the building industry from R. H. Morris, publishing director of **AMERICAN BUILDER**, carries a significant message to both manufacturers and home builders.

Some weeks ago, it was assumed in some quarters that the record-breaking new residential starts of January and February were a spurt in apartment building to beat expiration of section 608 of the housing law. Then came March with highest monthly figure on record—110,000—nearly 60 per cent ahead of last year. Significantly, single-family homes, for sale, rent or built-to-order gained most sharply. Should the higher trend continue—and there is nothing in the picture to suggest it will not—1950 will account for well over one million privately built housing units. In all probability, public housing units will not exceed 50,000.

The supply of labor, which a few years ago posed such a problem to builders, seems adequate to the 1950 requirements. Some areas, it is true, report scarcity of bricklayers and plasterers, but by and large, labor is not only more plentiful, but equally as important, more efficient.

The materials situation likewise bears little resemblance to the earlier postwar years. In only a few categories are supplies short. West Coast lumber and lumber products, notably plywood, are harder to come by, and prices are rising. The unusually severe winter in the northwest caused a sharp cut-back in mill production, induced by inability to get logs out of the forests. However, the greatly increased capacity of the plywood plant, and the expansion and technical advances in lumber manufacturing should materially reduce the period of unbalance between supply and demand. Meantime, lumber products, and particularly plywood, are more vulnerable to their competition and in better shape to take advantage of the opportunity presented than was the case two and three years ago.

Competition still major factor

It is interesting to recall that in this same period one year ago the least efficient lumber mills were closing down, while many of the plywood mills were in trouble. Certainly, the favorable condition of the home building market this year should not lead to smugness on the part of any producer in the matter of promotion and selling. Builders are finding that buyers, while quite as numerous, are more critically selective. The "panic" buying induced by years of the war-

induced housing shortage is no longer with us. To be successful in 1950, the builder has found he must give "more buy-use for the money," he must "sell" that idea through advertising and carefully trained salesmen, and he must be alert at all times to meet his competition.

The production plant of building materials, supplies and equipment has increased tremendously since 1946. Not only is there vastly expanded plant capacity but also greatly improved techniques for more, better, and less expensive production. Many new and desirable "substitutes" are on the market. Many more "new-comer" manufacturers are turning to the building field (as has been the case since 1945) with new or improved products, to replace other production lost by the shrinking of industries previously served.

Selling is the key

Smug assumption that all is well, and will continue so because of current demand, with consequent neglect of promotion and selling for the "unknown" market of the year next ahead, has connotations of woe for management. The American system of competitive enterprise fully came into its own only when highly competent selling was joined with equally competent production. As a result, within a few decades America has become the first nation of the world.

When the system of improved production and competitive selling techniques was replaced by cartelization in England, that nation lost its world leadership. We may be a long way from that socialistic folly of capitalism, but it is less than twenty years since much of industrial management in this country went overboard for N.R.A.—a New Deal euphemism for Mussolini's state capitalism.

We "fell" for N.R.A. because, in the excitement of the speculative "prosperity" spree of the late 1920's, industry management watched the ticker tape instead of the sales curve (of unit sales) in relation to the production curve, and the consequent hang-over was the great depression that led the nation into the "New Deal" of Roosevelt, war, and the "Fair Deal" of Truman.

Pray God we do not repeat the folly!

Robert H. Morris

Publishing Director

AMERICAN BUILDER

STEP UP THE SALEABILITY OF YOUR HOMES



CREO-DIPT ZEPHYR
RED CEDAR
PROCESSED SHAKES

CREO-DIPT INSULATION
BACKING BOARD

Use **CREO-DIPT** DOUBLE WALL *Zephyrs* on the sidewalls

These genuine red cedar processed sidewall shakes, available in a wide range of factory stained colors, make homes far more attractive—much easier to sell quickly.

Used exclusively or in combination with other sidewall materials, their long exposure, heavy butt lines and rich colors add interest and beauty that attract prospective home buyers.

What's more, their durability, plus the high insulation value of double wall construction with CREO-DIPT Insulation Backing Board, give your homes the added sales features of upkeep economy, comfort and fuel savings.

CUT CONSTRUCTION COSTS

Parallel sides and square butts assure tight fit and quick application. With the help of the CREO-DIPT "Speeder-Upper", two inexperienced men should apply at least 6 squares a day.

A COMPLETELY PACKAGED LINE

Shakes, insulation board and nails all packaged in sturdy cartons to assure maximum product protection and permit ease of handling on the job.

CREO-DIPT CO., INC.—Dept. AD-60
North Tonawanda, New York

Send me further information on CREO-DIPT
Double Wall Zephyrs and how to apply them.

NAME _____

PHONE _____

CITY _____

ZONE _____

STATE _____

Mail this Coupon Now ➔

Now! **OVER-THE-TOP** CONVENIENCE... For the Modest Budget!



Inset, above, shows portion of No. 80 "Over-the-Top" Equipment (1) Automatic opener; (2) Heavy power spring for self-lifting action; (3) Rigid angle iron lifting arms; (4) Steel weather stripping; (5) Positive lock; (6) Angle iron brace to prevent warping.



WRITE FOR FREE LITERATURE

Be sure to have the latest Frantz folders on "Over-the-Top" Garage Door Equipment and "Over-the-Top" Garage Door Units in your file. There's a set for any size door. There's a Unit for most popular-sized openings.

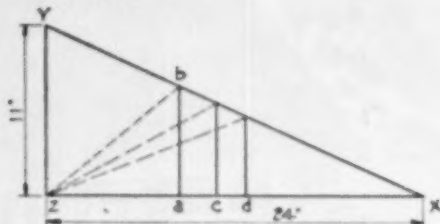
FRANTZ

GUARANTEED BUILDERS' HARDWARE

FRANTZ MANUFACTURING CO., STERLING, ILLINOIS

TECHNICAL GUIDE for Builders and Craftsmen

How to Determine Rise and Tread of Stair



The need for a great deal of figuring in the layout of a stair is obviated if a pictorial as shown is used.

I. Lay out a triangle with a base of 24 inches and an altitude of 11 inches. This proportion in itself provides an easy though not expensive space-devouring stair.

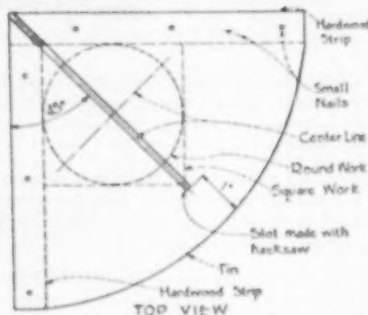
II. Mark the triangle X, Y, Z as shown, and proceed as follows:

Assume a fixed total rise of, say, 8 feet 9 inches or 105 inches, and try a rise of seven inches.

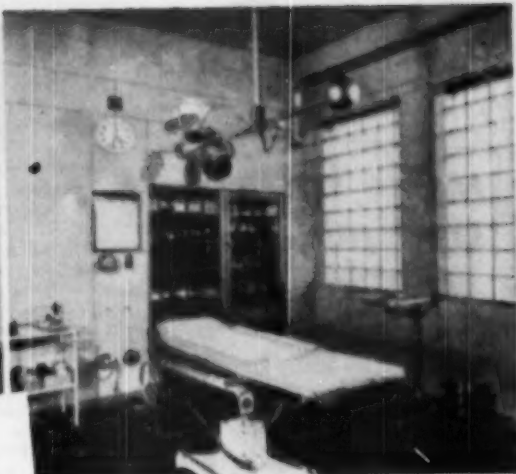
To use the triangle method square a seven inch line from the base to the hypotenuse as shown at a-b. The run or tread dimension may then be taken directly with a rule from a to z. cZ and dZ give the run in each case for other predetermined rises, and the dotted line in each case gives an indication of the final pitch.

The general proportion of 11 to 24 can be modified to agree with the "ideal" proportions used by other mechanics. However, it can be noted that the principle may be used for the lowly back porch steps to the "show" staircase.—Submitted by T. Gagen, London, Ontario, Canada.

How to Find Center of Material



This marker locates the exact center on the ends of both square and round stock. Cut a piece of heavy tin to the shape shown, each side six inches long. Make a 45 degree slot in metal to within one inch of curved side. Two pieces of $\frac{3}{4}$ inch hardwood are nailed to the tin piece as shown. In use, the stock is placed under the marker in the corner of wood pieces and a pencil mark is scribed through the slot in the metal. The work is then given a quarter turn and another line is made in like manner. The intersection is the center.—Submitted by Herbert E. Fey, New Braunfels, Texas.



another example of the profitable MASS MARKET FOR MARLITE!

**Massillon City Hospital selects Marlite
for extensive modernization program**

This leading Ohio city hospital recently completed an entire new Surgery—including five operating rooms, plus sterilization, equipment and scrub-up rooms. Marlite plastic-finished wall and ceiling panels were installed throughout!

Marlite More Economical . . . E. J. Lincke, superintendent of this modern hospital, states that he specified Marlite because it was fast and easy to install in all areas. And the large panels went right up over old walls or new.

Marlite Easier To Maintain . . . Cleaning time at Massillon has now been cut 75% with sparkling Marlite panels. This big savings in maintenance alone is another reason why users prefer practical Marlite.

Marlite Presents Pleasing Appearance . . . Another reason why Marlite was chosen for Massillon! Doctors find that Marlite colors put patients at their ease . . . pleases the public who visit the hospital.

Marlite Never Needs Refinishing . . . Still an additional feature! Marlite's durable, plastic finish never needs costly periodic painting or redecorating. No wonder more and more commercial users are saying: "Make mine Marlite!"

ASK ABOUT NEW TRAINING FILM—"Install It Right" . . . With "Marlite" covers every step in creating beautiful Marlite interiors. A showing can be arranged for you. Write for details: MARSH WALL PRODUCTS, INC., Subsidiary of Masonite Corporation, Dept. 603 DOVER, OHIO.



Marlite
PLASTIC-FINISHED
WALL and CEILING PANELS



New, modern interiors at Massillon City Hospital featuring spotless, easy-to-maintain Marlite wall and ceiling panels.

**Make it
Lifetime
Trouble-free**

Use SPOT SASH CORD

The one trouble-free method of hanging windows is with Spot Sash Cord, weights and pulleys. With this method there are no adjustments, no metal to metal contacts, no noise, no early replacements, nothing

to get out of order. Proper installation, using Spot Sash Cord, means reasonable installation cost and lifetime service.

*Specify Spot Sash Cord
—identified by the Col-
ored Spots, our trade-
mark (Reg. U.S. Pat. Off.)*

Samson
CORDAGE WORKS
BOSTON 10, MASS.

INDUSTRY BRIEFS

The Lone Star Cement Corp. has announced that it will build a new cement plant near Roanoke, Va. The plant, to be erected at a cost of \$5,000,000, is to have an annual production capacity of 1,500,000 barrels of cement and should be in operation by early 1951. It will be served by the Cloverdale and Catawba railroad, a Lone Star subsidiary. The new plant will bring to 16 the total number of mills in the Lone Star system, with a total annual capacity of 29,000,000 barrels of cement.

Norman O. Cruver, former president of the Wheeler Osgood Co. and partner in the recently-established Cruver-O'Neil Sales Co., has announced the organization of the Cruver-Langhardt Door Co., in Anacortes, Wash. Headquarters of the new door company will be in Tacoma. Cruver's partner in the new business is A.J. "Happy" Langhardt, production veteran with more than 40 years in the fir door business. The Langhardt Sash and Door Co. of Anacortes is being reorganized into the new company and full production is expected around June 1.

Weyerhaeuser Timber Co. spent \$19,785,098 on plant additions and replacements during 1949, it has been revealed in the firm's annual report. During the past eight years the company has spent approximately \$96,000,000 for additions to plants, artificial reforestation, equipment and roads, and for the purchase of steamships. Plans for additional plant expansion and modernization are anticipated for the future, it was announced.

W.E. McWhorter has been promoted to advertising manager of



Owens-Illinois Glass Company's Kimble Glass Division and American Structural Products Co., according to an announcement by Harlan Hobbs,

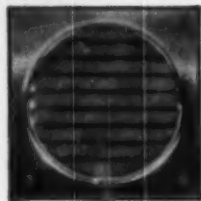
Kimble and American Structural sales promotion manager. McWhorter joined Owens-Illinois in 1944 as advertising manager of the Insulux Products Division, later a part of American Structural Products Co. In 1939 he joined International Steel Co., Evansville, Ind., holding this post until affiliation with Owens-Illinois.

SHEPLER



**ELECTRIC HEATERS and
VENTILATING FANS**

MODEL NO. 10 AUTOMATIC WALL TYPE FAN



Furnished in Chromium or White Durenamel

A 10" deluxe fan featuring automatic bead chain control and Invisi-Grille front. Louvers are set at the correct angle to permit free air flow, yet prevent visibility of the interior when installed. Releasing the bead chain simultaneously starts the motor and opens the outside door. Equipped with a powerful Redmond 1-70 H.P. motor and Torrington 5-bladed impeller, this fan has a rating of 650 C.F.M. (free air delivery). Unit has adjustable wall sleeves for any wall thickness.

RADIA ELECTRIC WALL INSERT HEATERS

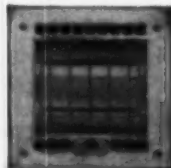
No. 15-C Chromium

Equipped with the efficient Globar Heating Element, these heaters are low in cost yet high in efficiency. Available in sizes and capacities up to 3000 watts. Finish in either chrome, or white or colored porcelain enamel.



(Other Shepler Products: Ceiling, chimney fans • Fireplaces, logs • Portable heaters • Automatic shutters)

Write for details!



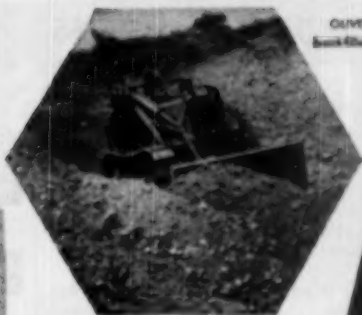
No. 1100 Chromium

SHEPLER Manufacturing Company
1312-14 SHEFFIELD STREET • PITTSBURGH 12, PA.

OLIVER HG Crawler Tractor with Ware Loader loading sand into truck.



OLIVER HG Crawler Tractor with Ware Backfiller Blade attached to shovel arm.



OLIVER Model "88" Wheel Tractor with Ware Boom handling coal iron pipe.

...take the "Load" out of Your Loading Problems!

Whatever your loading problem, the easy, economical answer is an Oliver Crawler Tractor or Oliver Industrial Wheel Tractor and Ware Front-End Loader.

These powerful tractors and the hydraulically operated loaders are easy to operate . . . easy on maintenance and operating costs. Lift and bucket are hydraulically controlled. Hydraulic control of bucket assures greater breaking-out action and full loads . . . prevents wasteful spillage. "Midsection" pivot allows longer reach of dumping position and distributes the weight advantageously over the tractor frame to minimize strain. The hydraulic rams are designed to take most of the shock loads, assuring longer life for both tractor and loader.

And, the tractor-loader unit can be quickly converted to backfiller, boom or lifting fork. Special buckets are available for coal, snow or humus loading. The hydraulic system can be used to power other equipment such as mowers, sweepers, etc., in combination with the loader. For all the facts, see your local Oliver Industrial Distributor, or write direct to:



OLIVER Model "88" Wheel Tractor and Ware Loader loading out gravel.



OLIVER HG Crawler Tractor with Ware Loader on ditching job.

THE OLIVER CORPORATION

Industrial Division: 19300 Euclid Avenue, Cleveland 17, Ohio
A complete line of Industrial Wheel and Crawler Tractors



"THE SIGN OF
EXTRA SERVICE"

ROE

STEEL TAPES

are best for

BUILDERS...

the facts prove it!

FIRST AND FOREMOST, Roe Steel Tapes are extremely easy to read... and they go right on being clearly legible year after year. The black markings are permanently etched into the steel which is then nickelplated to provide a lustrous contrasting background. A transparent plastic overcoat is added for top-most wear resistance—and durability.



A - Steel tape
B - White nickel
C - Black etched markings
D - Plastic overcoat

Pictured here is the Roe Steel Tape #302 with polished chrome-plated, sturdy welded steel case. Other Roe models feature cases in handsewn leather, and in metal-banded leather and leatherette. They have a reinforced rust resistant liner, precision winding drum, flush-folding handle, green button center and roller mouthpiece. All are available with 25, 50, 75 or 100-foot tapes; feet in inches and eighths, or in tenths and hundredths.

Get Roe Steel Tapes from your hardware dealer—or write us giving his name and address.



JUSTUS ROE & SONS

Makers of fine steel tapes since 1876

SPRINGFIELD, NEW YORK

INDUSTRY BRIEFS

Nearly 70 manufacturers and representatives of the clay products industry attended the annual conference of the **National Clay Pipe Manufacturers, Inc.**, held recently at the Bismarck Hotel, Chicago. The three-day meeting was devoted to new developments in all phases of the industry.

Miss **Rossie Ann Gibbon** has joined the Home Economics staff of **A. J. Lindemann and Hoverson Co., Milwaukee.** Miss Gibbon, a graduate in home economics and journalism from



Chicago Mundelein College, will test procedures in the firm's kitchens and conduct meetings on its line of electric ranges, refrigerators, water heaters and freezers.

The management of the Eljer group of companies has decided to discontinue the manufacture of enameled iron plumbing fixtures at its **Los Angeles plant.** The plant was purchased by the Eljer Co. in 1943 and operations begun shortly after V-J Day in 1945. Company officials said that operations had not been entirely satisfactory and at the time of the decision to suspend operations the company was involved in its second long and costly strike within the past two years, although the labor relationship at the other Eljer plants has continued to be harmonious. Since acquisition of the Los Angeles plant the company has expanded its production facilities at its Salem, Ohio, and Ford City, Pa., factories.

A new full-color motion picture, "The Secret of the Masters," produced under the sponsorship of the **United States Gypsum Co.**, is being made available to architects, builders, interior designers and decorators for showing to prospective customers. The film, to be generally released later through Warner Brothers' theaters, shows some of the world's best known art masterpieces as proof of durability of the type of quality oil paint which can be thinned with water. Information about showing the film can be obtained from the company at Department 144, 300 W. Adams St., Chicago 6, Ill. Both the film and projection equipment are provided without charge.

STOP HEAT LOSS with KORK-PAK...the INSULATING VAPOR SEAL



- Non-Extruding
- Water-Proof
- Greater Resiliency
- Low Material Cost

Install KORK-PAK at the vital-leaking joints to prevent heat loss through concrete floor slabs in home, business, industrial and structures on grade—get maximum joint filling efficiency PLUS the highest insulating factor of any similar material. KORK-PAK's low cost and easy handling make it ideal for many applications such as Sill Vapor Seal, Glass Building Block Seal, Joint Filler, etc., in every type of construction.



Write for complete details, illustrated circular and samples.

SERVICISED PRODUCTS CORP.

6021 W. 63th ST., CHICAGO 38, ILL.

SEAL-ALL CLIPS



Actual size of Seal-All Clip

A simple sturdy clip designed to interlock shingle sections and prevent raising of asphalt shingle tabs. The perfect clip for hexagonals, 3 in 1 strips and individuals laid out Dutch Lap method.

- Made of solid copper wire—pliable yet strong enough to anchor single sections.
- Cannot rust out.
- Hammer is only tool necessary.
- Easy to handle.
- Beauty of roof unmarred.
- Perfect on repair jobs to correct leaky, unsightly roofs
- Millions in use since 1935.

BUILDERS AND DEALERS! For complete information and free samples, write today.

SEAL-ALL CLIP COMPANY

BOX 3028

PLINT 1, MICH.

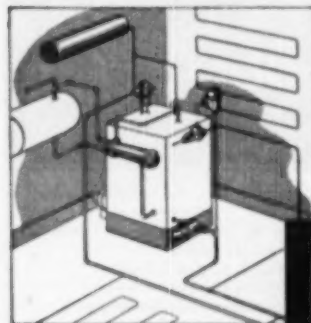
AMERICAN BUILDER

Two Valves In One!



Brass vent tube separates air rising from boiler water. Air passes up outside of tube and vents into pressure tank automatically. Water passes up inside tube.

THRUSH
forced circulating
HOT WATER
RADIANT HEAT



COMPLETE CONTROL FOR
AUTOMATIC HOT WATER HEAT

Controls Flow
AND ELIMINATES AIR
FROM HOT WATER HEATING SYSTEM

THE NEW IMPROVED Thrush Flow Control Valve is really two valves for the price of one because it provides both flow control and air elimination without any extra "air-tube" fitting. It also takes the place of an elbow in the flow riser. No other flow control valve has all these outstanding value features. Get the facts now.

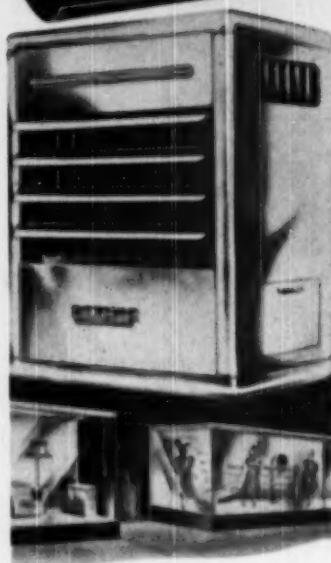
Highest boiler temperature occurs when the Flow Control Valve is closed. Air and gases which are liberated as the water is heated, vent directly into the pressure tank. Water which passes into the flow main, is always free of air. Result—greater heating efficiency—more uniform heat. You save material cost, save installation time, and reduce inventory requirements by specifying Thrush "T" Flow Control Valves. (They are also available without tube.) For more information, see our catalog in Sweet's or address Dept. G-6.

H. A. THRUSH AND COMPANY
PERU, INDIANA

MANUFACTURERS OF HOT WATER HEATING EQUIPMENT FOR MORE THAN A QUARTER CENTURY

The New 1950 REZNOR

AUTOMATIC GAS-FIRED UNIT HEATER
SUSPENDED ON
FLOOR TIES



• **TIME NOW** to talk year 'round comfort with the new 1950 Reznor Gas-fired Unit Heater.

Completely automatic... cool in summer, warm as toast in winter... Reznor Heaters reach a new high in operational economy and sales appeal.

Now beautifully finished in eye-inviting PERLITE, Reznor makes the world's most wanted gas unit heaters... *outsell all other makes!*

Write now for information, start selling today!

Gas Unit Heaters Since 1888

REZNOR MANUFACTURING CO.
17 UNION ST. • MERCER, PENNA.

INDUSTRY BRIEFS

Appointment of **Henry B. Jacobsen** as sales engineer for the **Stimson Lumber Co., Hardboard Division, Forest Grove, Ore.**, has been announced by **Harold A. Miller**, vice president. Formerly with the **Masonite Corp.** as industrial engineer and the **Crown-Zellerbach Corp.** in the technical control department, Jacobsen has had experience in both the selling and engineering of wood products.

• • •

Appointment of **Adam F. Loecher** as manager of the new Contract Department of **Landers, Pray and Clark** has been announced by **Bret C. Neece**, the firm's vice president and general sales manager. Loecher, who was formerly associated with the **Evans Products Corp.** of **Plymouth, Mich.**, is well-known in the electrical appliance and building field. In his new position he will confer with architects and builders throughout the country on the **Universal Select-A-Range**, conventional ranges and water heaters.



• • •

Construction of new laboratories have been started by the **Armstrong Cork Co. at Lancaster, Pa.**, the firm's president has announced. The new research buildings will be built on a 40 acre site four miles west of Lancaster and are expected to be ready for use early in 1951. Designed by an architectural firm of **Shreve, Lamb and Harmon and Associates** of New York City, the facilities will be built by **Henry E. Baton, Inc.**, Philadelphia. The main research building will be of two and three-story brick and steel construction. A large single-story pilot plant, smaller pilot plants and a boiler house will also be built.

• • •

The Home Appliance Division of the **Murray Corp. of America**, in cooperation with **Olson and Co., Inc.**, recently-appointed Philadelphia distributor, sponsored the first public showing of Murray electric ranges, gas ranges, and matched steel kitchens at the recent Philadelphia Home Show. On hand to discuss the new Murray line with dealers and the public were **D.B. Jones**, Eastern regional sales manager of Murray's Home Appliance Division and **V.E. Olson and William Goldenberg**, president and vice president of Olson and Co.

PRESTILE

DE LUXE TILEBOARD OF

*Economy!
Beauty!
Profits!*

Prestile economy, quality and beauty assure lasting satisfaction to your customers... and, most important, greater profits for yourself. From every standpoint, it pays to push Prestile!



PRESTILE

"De Luxe Tileboard of Lasting Beauty"

Write

Clip this handy memo to your letterhead and mail today!

Prestile Mfg. Co. • 2856 Ogden Ave. • Chicago 90

We are interested in:

☐ Prestile De Luxe Tileboard

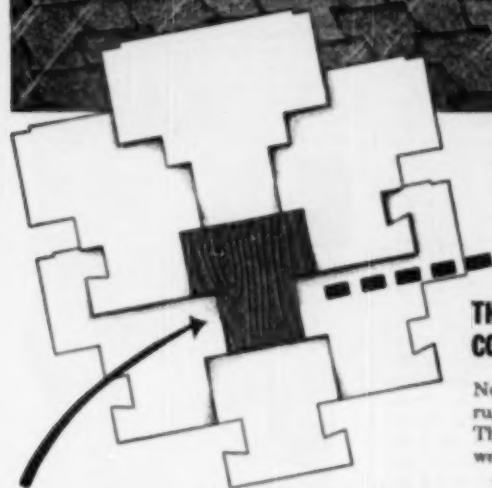
☐ Prestile Aluminum Mouldings

Please send literature and samples.

Your Name

AMERICAN BUILDER

T for TOUGH! T for TEXACO!



**DOUBLE
COVERAGE!**

**HEAVY
DUTY!**

**INTER-
LOCKING!**

for **TEX-LOK**

**THE TIME-TESTED, TOP-PERFORMING, DOUBLE-
COVERAGE SHINGLE THAT STAYS PUT!**

Now—low-cost, long-life TEX-LOK. Scientifically designed for rugged wear in exposed, high-wind, heavy-weather areas! This interlocking type shingle has been tested in every weather—and has weathered every test!

Two tough interlocking layers over the entire roof area. Each TEX-LOK is interlocked and firmly anchored with concealed nailing at four points—to stay put!

A distinctive basket-weave pattern and pleasing shadow lines—plus rich color blends—make TEX-LOK a beauty—for every type architecture.

Fire-resistant, too! Every bundle carries the Underwriters' Laboratory Class "C" Label.

Self-aligning, interlocking and long-lasting—TEX-LOK is the biggest asphalt shingle value on the market today. And—it carries the name millions know and trust—TEXACO!

NOTE: TEX-LOK Shingles are available in the areas currently served from Texaco's roofing plants at Lockport, Illinois and Port Neches, Texas.

ONLY 42% EXPOSURE! Less than half the total surface area of each TEX-LOK shingle is exposed to the weather—actually only 42% exposure—as shown by the T area in the above diagram. That's why TEX-LOK gives double-coverage—plus! Here is one of many convincing selling arguments for TEX-LOK, the biggest asphalt shingle value on the market today!



**TEX-
LATCH**

Another big value in Texaco asphalt shingles! TEX-LATCH is very much like TEX-LOK, varying chiefly in its method of locking tabs. It's a heavy-duty, double-coverage, interlocking shingle—built for high winds and heavy weather. Attractive textured pattern—fire-resistant—economical. Available in the areas served from the Edgemoor, Delaware, roofing plant.



MEMBER OF THE
ASPHALT ROOFING INDUSTRY BUREAU



for
Quality Plaster
use
OHIO
WHITE FINISH*

It's in the northwestern part of Ohio that the world's purest deposit of dolomitic limestone is found.

And it's here that Ohio White Finish is scientifically produced from hand picked, kiln burned rock, to offer the building industry a lime that's always uniformly right, guaranteed 99 1/2% pure.

For finished plastering it makes a pure white putty of great plasticity, easy to work, smooth spreading. There's none better.

Look for the Zigzag Bags, our trade mark.

The OHIO HYDRATE & SUPPLY Co.
WOODVILLE, OHIO

* and its twin brands:
HAWK SPREAD
WHITE FINISH



INDUSTRY BRIEFS

George Macklin, former general manager of the Sager-Barrows Lock Works, has been named marketing manager of the National Brass Co., Grand Rapids, Mich.



Macklin will devote the principal part of his time to working with the direct factory representatives of the company and with dealers handling Dexter locks. He joined Sager-Barrows in 1925, and was with the Eagle Lock Co. from 1941 to 1944 when he rejoined Sager-Barrows.

The appointment of Harold Fatt as its southern territory regional sales director has been announced by the Given Manufacturing Co., Los Angeles, manufacturers of Waste King Pulverizers. Fatt will maintain headquarters at Dallas, Texas. It was also announced that Ernest Maron, eastern regional sales manager, has established headquarters at Birmingham, Mich.

Three changes in management personnel have been announced by the



Ruud Manufacturing Co., Pittsburgh, Pa., manufacturers of Ruud automatic gas water heaters. C.E. Bartlett, manager of the Ruud direct-factory branch at Philadelphia, has been named assistant to the president, R.H. Lewis. J. R. Lavelle, formerly manager of the Jersey City direct-factory branch, has been appointed Philadelphia branch manager. Don C. Nicol has been named to the management of the Jersey City branch.

The board of directors of Armstrong Cork Co. has announced the election of C.J. Backstrand as president and H.W. Prentis, Jr., as chairman of the board. Kenneth O. Bates was re-elected vice president and designated executive vice president. Prentis, who retired as president after 16 years in that office is a former president of the National Association of Manufacturers and is widely known in the industry. Backstrand joined the Armstrong organization as a student salesman in 1921. He was named general manager of the floor division in 1933, and a vice president in 1938. He has been first vice president since 1945.

Dealers who know
the business best... sell

Tile-Rite

Plastic Wall Tile

Tile-Rite passes every test!

Top quality appearance

Greater durability

Higher heat resistance

and NOW... Easier installation

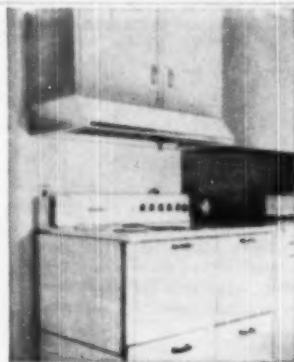
New, scientifically designed CORNER TILES, precision molded, guaranteed to match field tile colors, eliminate difficult spacing problems and insure perfect alignment on straight line or stagger jobs for both new construction and remodeling.



When customers demand the best... the choice is TILE-RITE... backed by a factory guarantee.

Send today for complete information on Tile-Rite's merchandising program. Help yourself to bigger profits, greater sales volume and better customer satisfaction.

THE Tile-Rite COMPANY
5109 Euclid Avenue • Cleveland 3, Ohio



The RANGE-VENTOR SELLS HOMES

Without a Range-Ventor even today's modern and beautiful kitchens are incomplete. Not only does this handsome, eye-filling piece of equipment capture and exhaust kitchen odors, grease and heat at their source—above the stove—but it is a selling feature that has instant appeal. It ventilates, it illuminates, it protects walls and cabinets... and it sells homes.

Send for Bulletin 580

Universal Blower Co.
Birmingham 2, Mich.

AMERICAN BUILDER

Johns-Manville Presents....the New

Smoothgrain

PERMATONE

ASBESTOS SIDING

...a revolutionary improvement!



Beautiful New Colors!

Line your level against the surface of the new J-M SMOOTHGRAIN PERMATONE Shingle... you'll find it smooth and true. Now look at its beauty from any angle... you'll see a rich texture of striking character, even though the surface of the shingle is actually smooth!

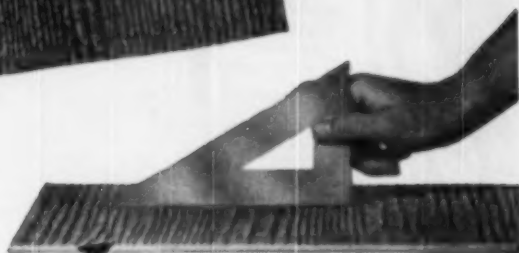
These new Smoothgrain asbestos shingles are stronger because they have the same cross section throughout... they cut cleaner because the shingle cutter always works against a smooth surface... they resist soiling better and always look the same from any angle, because they have no grooves, no raised texture to catch dirt or highlights and thus distort appearance.

SMOOTHGRAIN Shingles are available in an outstanding variety of beautiful colors, all PERMATONE colors. As "Permatone" implies, the color is "sealed in"... comes from myriads of tiny ceramic granules embedded into the asbestos-cement.

The colors include Heather Green, Autumn Brown, the distinctively rich and practical Weathered Gray, and the ever-popular Silver Gray which goes well with any trim or color scheme. For full information, write Johns-Manville, Box 290, New York 16, N. Y.



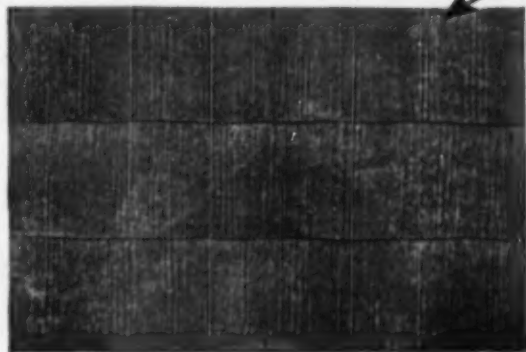
ASK TO SEE SAMPLES!



Smooth surface...

no grooves... yet

beautifully "grained"!



STANLEY TOOLS

for keen
workmanship!



No. 750

One-piece blade and socket of high carbon steel. An excellent all-purpose wood chisel.

No. 60

Tough plastic handle and blow-centering steel crown. 3-in. alloy steel blade. A favorite with all woodworkers.

No. 61

Thin blade, plastic handle, perfectly balanced, especially suited for carving and paring.

STANLEY CHISELS are made with finest chisel-steel blades to hold a keen cutting edge. Designed to give lasting service, these chisels are typical of the complete line of fine Stanley Tools. See them at your hardware dealer's. Stanley Tools, New Britain, Connecticut.

THE TOOL BOX OF THE WORLD

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • TOOLS

ELECTRIC TOOLS • STEEL STRAPPING • STEEL

INDUSTRY BRIEFS

Appointment of **Albert D. Wagen** as Pacific coast divisional director for the **Pittsburgh Plate Glass Co.** paint division has been announced by E.D. Griffin, vice president. Associated with Pittsburgh Plate's paint manufacturing operations since 1935, Wagen joined the firm as an accountant at the Milwaukee plant. As divisional director he succeeds Louis F. Theurer who has retired after 31 years' service with the paint division.

Redwood's "Century of Progress" was described by Sherman A.



Bishop, general manager of the **California Redwood Association**, at four "Redwood Seminars" conducted by the Association in the midwest during

May. The first day-long meeting was held at the Sheraton Hotel, St. Louis, May 9. Others were at the Blackstone Hotel, Chicago, May 11; the Fort Des Moines Hotel, Des Moines, May 16; and the Netherland Plaza Hotel, Cincinnati, May 18. Seminar leaders were all Association staff members. John R. Freeman, Association field consultant, spoke on "The Right Grade of Redwood for Every Job"; Byrne C. Manson, research engineer, "Redwood Research: A Direct Consumer Service"; and Philip R. Farnsworth, promotion manager, "Redwood's Box Score."

A new warehouse containing 147,000 square feet of space and costing \$700,000 is being constructed by the **Mullins Manufacturing Corp.**, at its Warren, Ohio plant. In announcing the building project, President George E. Whitlock said that finished Youngstown Kitchen products would be stored during periods of lower demand and will supplement factory production during periods of peak demand. Occupancy is expected by July 1.

Producers' Council Head Predicts Rebuilding Era

The 1950's will see the beginning of a great new era of rebuilding in this country, James M. Ashley, president of the **Producers' Council**, national organization of building products manufacturers, predicts.

"Older homes, industrial plants, commercial buildings, and farm structures will be replaced at an unprecedented rate by newer, more convenient, and more efficient structures during the decade which lies ahead," Mr. Ashley said.

Low Cost
Self-Lighting
OIL FLOOR
FURNACE

BY H.C. Little



DU-44 CIBL
Automatic,
Forced Air
Oil Burning
Furnace

Ideal for first floor
installation in small homes

IT'S QUIET—

The **ONLY** quiet self lighting oil furnaces are made by H. C. Little. There are no moving parts in the H. C. Little oil burner—no motors, no blowers, no hum, no roar. A big feature in selling small homes!

COMPACT DESIGN—

Only 22" x 22" x 60" high. Small enough to fit easily in a small utility room.

SENDS HEAT TO EVERY ROOM

through ducts. 78,500 BTU heat OUTPUT. Another selling feature!

BURNS LOW COST CATALYTIC OIL

Today's best bargain in oil for domestic heating.

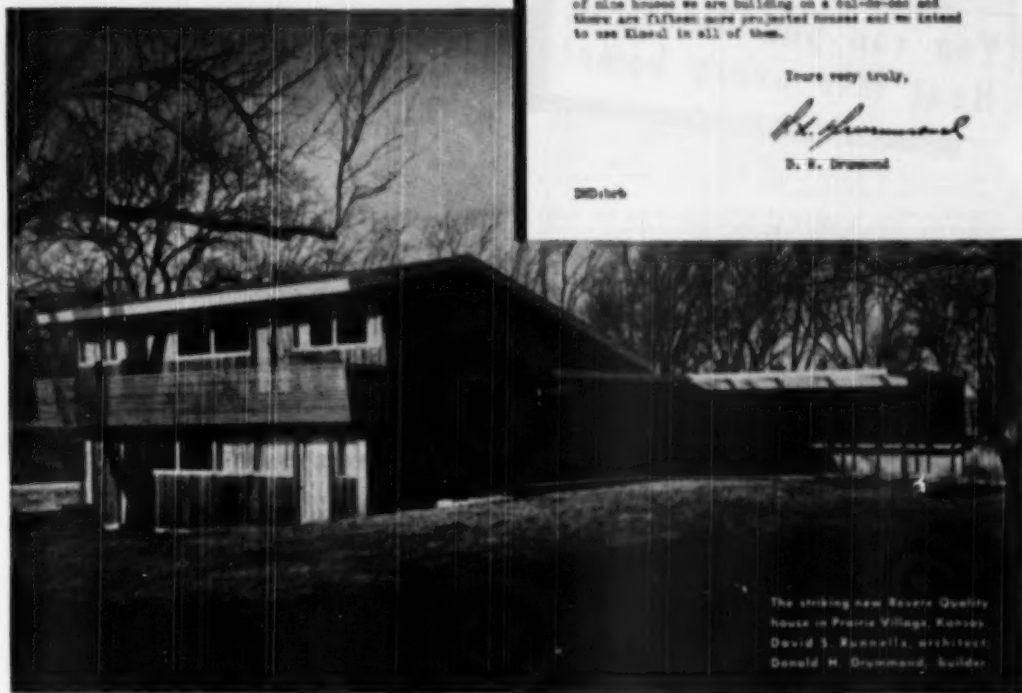
Get all the facts and low prices. For your dealer's name, WRITE DEPT. A-6

H.C. Little
Burner Company

SAN RAFAEL, CALIF.

AMERICAN BUILDER

Revere Quality House Proves Economy and Efficiency of KIMSUL*



The striking new Revere Quality House in Prairie Village, Kansas
David S. Runkella, architect
Donald M. Drummond, builder

In today's low to medium-priced homes—where maximum efficiency with *low true cost* is an absolute requirement—more and more designers and builders are specifying KIMSUL* insulation.

The many-layer stitched KIMSUL blanket provides *lifetime* uniform protection over every inch of covered area. Can't sag or settle to leave heat-leaking

thin spots. It offers high thermal efficiency ("k" factor 0.27), plus resistance against fire, vermin and mold. In easily handled, *measured* rolls, KIMSUL can be quickly installed by unskilled labor. KIMSUL saves 80% on space and handling costs, too, with each roll compressed to 1/3 installed length. And the exceptional flexibility of the

KIMSUL blanket lends itself well to caulking and fitting behind pipes, wiring and other "tight spots".

For complete information, see Sweet's Architectural and Builders Catalogs, or write to:

KIMBERLY-CLARK CORPORATION
Neenah, Wisconsin

Now 2 types of KIMSUL insulation
— Regular and Reflective

(Red Roll)

(Gray Roll)



DONALD M. DRUMMOND
and Family
Prairie Village, Kansas

January 4, 1980

Kimberly-Clark Corporation
Neenah, Wisconsin

Gentlemen:

I would like to tell you I have used your Kimsul insulation ever since I started in business. I have found it competitive in price, economical to install, and above everything else a good insulator.

As you know, we used Kimsul insulation in our Model Modern Revere Home here in Prairie Village, Kansas. While our home was under construction there was a good deal of speculation as to whether we could heat a modern home in this climate. The owners have moved in and we have no heating problem. The model house was one of nine houses we are building on a cul-de-sac and there are fifteen more projected houses and we intend to use Kimsul in all of them.

Yours very truly,

D. M. Drummond

DMD:rb



Now

You can put Automatic Heat into every home!

Yes—regardless of house size or budget limitations, you can include the luxury of automatic heat—thanks to the TEMCO Gas Floor Furnace!

And—in addition to making completely automatic heat available to every home builder—a TEMCO Gas Floor Furnace actually permits you to cut building costs and save valuable floor space, too.

A TEMCO requires no basement, no costly excavating—just 35 1/2" overall.

A TEMCO fits right into the floor—no utility room necessary.

THESE TEMCO FEATURES ASSURE DEPENDABLE LASTING PERFORMANCE!

- Triple coated outer jacket.
- Rust proof burner ports.
- Porcelain enamel heat chamber.
- Reputation for quality and dependability.

The TEMCO name is all that is required to assure the home builder of low cost, low operating costs and trouble-free performance.

TEMCO'S

Porcelain Enamel Heat Chamber
Carries a 30 Year Warranty.



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GAS FLOOR FURNACES
and GAS HEATERS

TEMCO DIVISION B-204 NASHVILLE 9, TENN.

Please forward complete specifications on TEMCO Gas Floor Furnaces!

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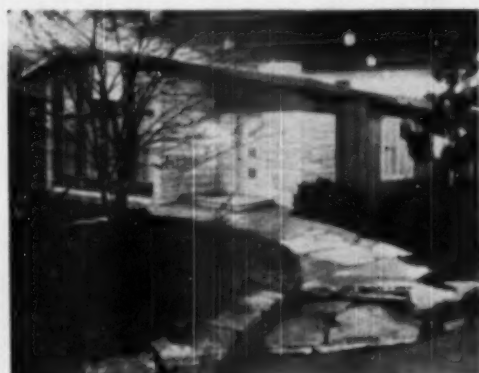
State _____

'Midwest House' Feature of Show

House at Indianapolis Home Show planned to represent sectional trend in design

THE "Midwest House" was one of the outstanding features of the 25th Anniversary Indianapolis Show at the State Fairgrounds April 21-30. J. Frank Cantwell, managing director of the home show since it began in 1922, stated that a definite type of midwest architecture had not yet developed and that it was his belief that the "Midwest House" might give impetus to a type of design that would truly represent Indiana and its neighboring states.

Hugh Bremerman, Indianapolis architect and builder, submitted the prize-winning design. The house, sponsored by the Marion County Residential Builders, was built at



EXHIBITION home was completely landscaped and furnished



"MIDWEST HOUSE" floor plan. Alternate plan provides basement, converts utility space into basement stairway and closet for den

the show by the Meridian Construction Co., of which M. L. Hal is president.

In the design the architect has attempted to combine a variety of building materials in an interesting manner adaptable to the climate. As designed, the house is in the \$20,000-\$25,000 class. The plan lends itself to various changes to suit individual tastes which would not add appreciably to building costs.

MAKE

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Profits FROM *Dreams*
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WITH

Miracle
Walls
by
TYLAC



WALLS OF BEAUTY, PERMANENCE, ECONOMY

Every woman dreams of beautiful, refreshing kitchens and bathrooms that are colorful, yet easy to keep clean.

Owners and managers of stores, offices, factories, hotels, hospitals, schools, etc., dream of walls that are modern and appealing, colorful yet restful—that never need repainting or revarnishing and that remain bright and new, over the years.

TYLAC JOBBERS and dealers everywhere, are cashing in on those dreams by showing and installing Miracle Walls by TYLAC. In new construction or in modernizing old homes and buildings—TYLAC'S Hi-baked, Plastic Enamel surface, with its 18 gorgeous colors and its 4 modern patterns—lends itself to endless varieties of decorative schemes, and offers unlimited possibilities for increased and added profits.

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Write us today for our new Color Chart,
liberal sales plan and many dealer helps.



TYLAC COMPANY MONTICELLO, ILLINOIS

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Two Good Ways to Add Beauty and **CUT COSTS**

ALUMINUM DOORWAY CANOPIES



THE WESTWIND

You can add colorful beauty and sales appeal to small houses—and cut costs—with any one of six beautifully styled, all-aluminum FAWSCO doorway canopies. Come complete and ready to install in green and white, blue and white, red and white.

ALUMINUM WINDOW SHUTTERS



Won't

- WARP
- ROT
- CRACK
- RUST

Another FAWSCO way to add beauty and cut costs. FAWSCO shutters are built to last a "lifetime." Priced lower than most wood shutters—last longer. Full louver, plain panel, bottom styles in natural aluminum, green prime coat or green, red, blue and white in baked-on enamel. All sizes. Complete with attachment screws.

Write for Catalog and prices.

**FAWSCO MANUFACTURING DIV.
FALLS STAMPING & WELDING CO.**



1709 Front St.

Cuyahoga Falls, Ohio

Association News

Gerholz

(Continued from page 63)

fight for independence, and now that their business is gone they are accepting it phlegmatically.

"The notorious Town and Country Planning Act has been the kiss of death for the real estate industry," Gerholz asserted. "Under it, all initiative has been killed, and the government housing program fell short of its goal last year. It has been necessary to cut down the goal for this year, despite the critical shortage."

"We obtained a picture of the real estate situation, not only through inspection trips in the field, but also through attendance at more than a dozen meetings with representatives of industry and high government officials. These included sessions with the Royal Institution of Chartered Surveyors, the Chartered Auctioneers' and Estate Agents' Institute, and the Building Progress Group, Ltd. In France we met with the Minister of Reconstruction and were entertained at a reception by Ambassador David Bruce."

"In government building," Gerholz said, "cost is no object. For example, I observed a complete lack of coordination of materials on the site and little evidence of men working at one of their projects. It had been started two years ago, and it was estimated that it would take another eight months to a year to complete. It was the kind of a job that private enter-

prise in this country would have to finish in six to eight months to avoid failure."

"We proposed to government officials a plan of supplying 5,000 prefabricated homes to help ease the shortage. Under the English scheme of capital investments for the whole economy, they would have no part of the idea. The question of whether the plan had any merit was not even considered. The important factor was that it would destroy the equilibrium of the economic program for Britain. Such is a planned economy."

"Just one hour by air from London, Brussels, Belgium, was like a breath of fresh air in the spring," he said. "Of all the European nations involved in the war, Belgium has given the freest rein to the private enterprise system. The contrast in conditions is astounding. Instead of the rationing of poverty as in England, we found plenty to eat and wear, and housing is available. The most serious concern of the Belgian people just now seems to be whether to invite the king back."

"A good volume of building by private industry is underway, with the emphasis, as in England and France, on the exteriors of homes. In the United States, we plan from the interior out, but there they plan from the exterior in. Their walls and roofs, consequently, are more durable than ours, but little thought is given to the interior space arrangement and to the conveniences such as heating, plumbing, and lighting. Consequently,

(Continued on page 224)

Portable power for time-saving tools

KOHLER ELECTRIC PLANT



Save time, reduce costs! Operate electric drills, saws, pipe threaders, cutters. Carry your own electricity and avoid trouble, expense, of arranging power hook-ups. This portable Kohler plant has a rating of 1000 watts for general use, 1500 watts maximum for intermittent duty. Operates tools having universal (AC-DC) motors. Compact—weighs only 75 lbs. Convenient carrying handle. Powered by quick-starting 4-cycle, air-cooled Kohler engine. Complete with 1/2 gallon fuel tank. Low in cost. Many other sizes available. Write today for folder K-12. Kohler Co., Kohler, Wisconsin. Established 1873.

Model 16SK12, 1000 watts, 11 1/2" x 14" x 22". Manual control. Length 15", width 14", height 22".

KOHLER OF KOHLER

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From Floor to Roof: Slash Costs and Improve Quality With Miracle Zonolite Vermiculite Aggregates!



DRY, WARM, ON-THE-GROUND FLOORS

Just mix Zonolite aggregate with Portland cement—it gives you an amazing insulating concrete that prevents heat loss and lag; blocks condensation. Tests show up to 17.5° higher temperature readings under ordinary concrete than under Zonolite—proof that Zonolite blocks heat loss to the ground. Decay, vermin, and fire-proof—Zonolite concrete floors never have to be replaced. An ideal base for radiant heat coils . . . can be poured right on the ground.



Versatile Zonolite Indispensable in Modern Construction

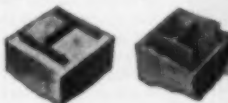
For light-weight insulation and fire safety, demand Zonolite vermiculite aggregates. Zonolite plaster weighs only $\frac{1}{4}$ as much as ordinary plaster. Zonolite concrete weighs only $\frac{1}{4}$ as much as regular concrete. Yet they are practically indestructible . . . vermin and decay proof . . . capable of withstanding the most rigid fire tests with outstandingly better results. Zonolite aggregates save up to 87% of handling time; workers maintain higher efficiency more hours per shift. Where fire-safe, permanent insulation of homes is desired use Zonolite Vermiculite Insulating fill.



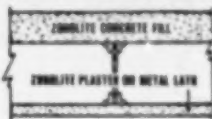
ZONOLITE COMPANY

Dept. AB-60, 135 S. LaSalle St. • Chicago 3, Ill.

OLD WAY! NEW WAY!



FAST FIREPROOFING OF STRUCTURAL MEMBERS



Compare the old and new methods shown above—you'll see the tremendous savings in weight and material that Zonolite plaster makes possible.

Recent tests give 4-hour rating to steel columns protected by metal lath and $1\frac{1}{4}$ " of Zonolite plaster. For suspended ceilings, (see left) Zonolite provides extreme weight reduction combined with greater fire safety. In homes, Zonolite plaster for walls and ceilings provides up to 400% more fire-protection. Resists chipping and cracking, too.



TIME-SAVING, COST-SAVING ROOFS

Lightweight, insulating Zonolite concrete is ideal for structural short-span roof decks (see above). In one operation you have both a structural deck and the necessary insulation for winter warmth and summer coolness . . . plus the maximum in fire protection. Yet Zonolite vermiculite concrete weighs only $\frac{1}{4}$ as much as ordinary concrete . . . reduces handling time of materials, reduces costs . . . can be poured right over existing roofs!

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135 S. LaSalle, Chicago 3, Ill.

Gentlemen:

Please send me complete details on

- () Zonolite plaster,
- () Zonolite concrete,
- () Zonolite acoustical plaster,
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I understand that this information is free and incurs no obligation on my part.

Name.....Title.....

Address.....

City.....Zone.....State.....



Last Year's Jobs



Architect: C. E. Paulson, Bethesda, Md.

-This Year's Salesmen

Because Cabot's House Paints keep their fresh, new look year after year they make last year's jobs your best advertisement.



Cabot's Collopakes cost no more than other top quality paints but they're made by the patented Collopaking process which inseparably combines pigments with wear-resistant oils. This results in a tough, durable paint film that protects the wood and resists the elements for years.

PLENTY OF COLORS

Cabot's Collopakes come in 32 attractive colors... many available from no other source. This makes color variety easy in developments... the right color for your choosiest customer in individual jobs. Because only pure pigments are used, Cabot's colors stay fresh and true.

WRITE TODAY for color card and complete information about Cabot's Collopakes. Samuel Cabot, Inc., 651 Oliver Bldg., Boston 9, Mass.

CABOT'S COLLOPAKES

Association News, cont'd

Gerholz

(Continued from page 222)

their interiors look like the Ford jalopy of the 1920 vintage as compared with the 1950 Cadillac.

"One of the few drawbacks about which we learned in our short visit to Belgium was the 12 per cent purchase tax on all types of goods including homes.

"In France more than 30 years of rent control and inflation have left the scars of neglect on the once beautiful city of Paris to such a degree that it is hardly recognizable. All incentive to build has been destroyed, and we didn't see 50 new buildings in Paris, despite the drastic housing shortage and the war damage.

"Because of the inflation, for example, a rent frozen at 1,000 francs in 1914 would amount to less than \$3 today—not enough to buy a good dinner. Owners cannot sell their buildings, and they have become such liabilities that advertisements appear in the papers offering to give away apartment buildings."

New Building Group Joins NAHB

Home builders in the tri-city area of Endicott, Johnson City and Binghamton, N.Y. have organized the Southern Tier Home Builders Association.

The association is affiliated with the National Association of Home Builders. Wayne Edwards, of Endicott, is president of the new chapter.

Building Leaders Attend California Council Meet

The third annual conference and banquet of the Home Builders Council of California was held April 27 at the Palace Hotel, San Francisco, with a number of building industry leaders taking part.

Speakers included Fritz B. Burns, Los Angeles, past NAHB president; John L. Hogg, president, San Francisco Building Trades Council; D.C. McGinness, FHA district director; Donald B. Kirby, president of the Northern California Chapter of the American Institute of Architects; and Builders Earl W. Smith, F.F. Burrows, Maurice G. Read and David D. Bohannon.

Panel discussion subjects were Mortgage Finance, Homes for Low and Middle Income Groups, Sales and Merchandising, Design and Construction, and Rental Housing.

Ferguson Speaks at Columbus

Guest speaker at a recent meeting of the Columbus, Ohio, Home Builders Association was Gates Ferguson, director of advertising and sales promotion for the Celotex Corp., Chicago. The title of Ferguson's talk on merchandising techniques for homes was "It's Time to Ring Doorbells."



to caulk easier... faster... better
contractors choose Calbar!

Wherever air-tight, weatherproof perfection is required... call on non-hardening, non-staining CALBAR CAULKING COMPOUND. It's "elastocured" and adheres to ANY surface.

available everywhere in a complete line of colors and containers. Write for the name of your nearest distributor.

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Surplus SALE!

PORTABLE
MULTI-USE
POWER
SAW



SAVE
\$300
WAS \$485.00
NOW \$185.00
FOR MINNEAPOLIS, MINNESOTA

America's greatest saw
borncut! Cuts lumber to
4" thick. Buicks & Strat-
ton 2 1/2 H.P. gas engine.
Saw cuts 3/4" lining,
transite pipes, steel
sheets, copper & alu-
minum, etc. Does work of
\$1,000 worth of saw equip-
ment. Sharpens tools.
Famous make, brand
new, original crates. Lim-
ited supply. Send for
literature.

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It Started in Boston...

NOW IT'S TAKING THE COUNTRY BY STORM!



**GOLD BOND'S NEW
MAT-THICK ROCK WOOL
SEALED BLANKET!**

HERE'S an insulation blanket priced so low and so economical to install that it's ideal for houses in the lowest price bracket. When first introduced in and around Boston, National Gypsum's Mansfield, Mass. plant was swamped with orders. Now this new, cost-cutting insulation product is being put into production at all of National Gypsum's Rock Wool plants to make it available to you in a hurry.

Rugged, lightweight and easy-to-handle, the 8 ft. Sealed Blankets fill the usual 8 ft. wall height from floor to ceiling in one operation. Saves you up to 20% in handling and application costs. Gives your houses *fireproof*, top-quality insulation at lowest cost... a big selling advantage in today's competitive market.

Write for free, new, illustrated folder showing Gold Bond's complete line of Rock Wool products for every insulation need.



New Gold Bond Mat-Thick Sealed Blanket is made of *fireproof* Rock Wool. Completely enclosed with breather cover on three sides, vapor barrier on fourth side; plus heavy duty nailing flange for fast handling and easy application. Available in 8 ft. lengths; greater lengths on special order. Meets F.H.A. and Building Code requirements in nearly all areas.

You'll build or
remodel better with

Gold Bond

NATIONAL GYPSUM CO.
BUFFALO 2, NEW YORK

Fireproof Wallboards, Decorative Insulation Boards, Lath, Plaster, Lime, Sheathing, Wall Paper, Rock Wool Insulation, Metal Lath and Sound Control Products.

From PROSPECT to SALE—
FASCO Tips the Scale!

FASCO Automatic Kitchen VENTILATORS Sell MORE Houses!

- For Ceilings
and Inside
Walls



FAN UNIT

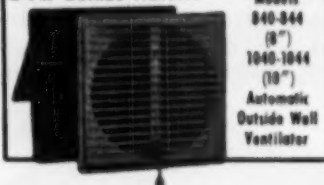


FAN AND OUTSIDE
WALL CAP ASSEMBLY

Mount anywhere
in ceilings or
through cabinets,
or in inside wall,
directly above stove

Models 1020-1021 (10")
"Ceil-&-Wall" Ventilator

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Models
840-844
(8")
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Automatic
Outside Wall
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- Quick, low-cost installation!
Beautiful! Cash in on the sales
appeal of a FASCO-equipped
kitchen... sell homes faster to
value-wise prospects. (Over 15,000
in Levitt Houses alone!)

WRITE, WIRE or PHONE for com-
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tries, Inc., 25 Union St., Rochester
2, N. Y. (Phone 34Amilton 1800.)



Association News, cont'd

Detroit Builders Plan Second 'Good American Home' Program

A second and larger "Good American Home" program has been begun by the Builders Association of Metropolitan Detroit, according to an announcement by President John Weinhart.

James Rossin is chairman and John D. Harrison co-chairman of the committee handling the new program. Both were participants in the original promotion launched January 22. Eight model homes were included in the first program. Weinhart said that a much greater number would be ready this time, well-distributed throughout the Detroit Metropolitan area.

The work of the Cerebral Palsy Society of Michigan, Inc., will be featured, Weinhart pointed out, with each of the several homes being made available to the charitable organization as an informational center.

The "Good American Home" models will be kept open through National Home Week, Sept. 11-17. The same committee, headed by Rossin and Harrison, has charge of National Home Week plans.

64 Midwest Builders Get Safety Awards

Awards for accident prevention and perfect safety records have been made to 64 midwestern home builders, it has been announced by the Chicago Metropolitan Home Builders Association. Presentation was by the joint sponsors of the safety program, the Home Builders Association and the American Motorists Insurance Co., in cooperation with the National Safety Council.

Participating in the program are builders from Illinois, Iowa and Indiana who are affiliated either with a local home builders association or with the National Association of Home Builders of the United States. Ray E. Hines, Hines Construction Co., Chicago, is general chairman of the safety program which is headed by the Safety and Insurance committees in the local associations.

Of the 64 builders receiving awards, six had perfect safety records for three years and nine had had two accident-free years.

New Mexico Home Show Scheduled June 4-11

The New Mexico Home Builders Exposition, sponsored by the Albuquerque Home Builders Association, will be held June 4-11 at the state fair-grounds, Albuquerque.

Show features will include an architectural contest and a model home building contest, sponsored by the association, and building demonstrations by union apprentices. There will be approximately 190 exhibits.

Red Devil WOOD SCRAPERS



**LONGER HANDLES!
PERFECTLY BALANCED
Shaped to Fit the Hand**

**Instantly Replaceable
DOUBLE-EDGE
SUPER-KEEN BLADES**

No screw driver or tool
needed to replace the
high quality blades—
just push in new blades,
and out come the old
ones. Stock genuine
RED DEVIL BLADES for
replacements.

RED DEVIL TOOLS.
Irvington 11, N. J. U.S.A.



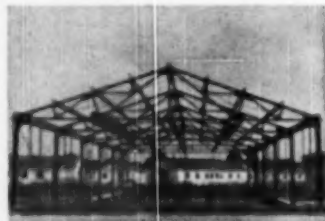
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You will find the answer to your steel
problems here at International.

Large stocks of various steel shapes,
standardized methods of manufacture, and
a large, well-manned plant enable us to
make good delivery of your structural steel.

The variety and economy of our steel
building products give you one source of
supply, saving time and money.

Send your plans for our prices — or
write for assistance in working out your
steel problems.



Structural Steel from International is the framework
for a new sales building.

INTERNATIONAL STEEL CO.

1804 EDGAR ST. • EVANSVILLE 7, IND.

AMERICAN BUILDER

Especially in low cost
bathrooms...

the basic
need is **value**

Case plumbing fixtures for low cost, high value

#923

WINCHESTER

Vitreous China Lavatory
with Integral Shelf,
Oval Basin,
Front Overflow. 18" x 15 1/2"

#920

STEWART

Vitreous China Lavatory
with back. Has all
popular design features.
18" x 15 1/2"

#912

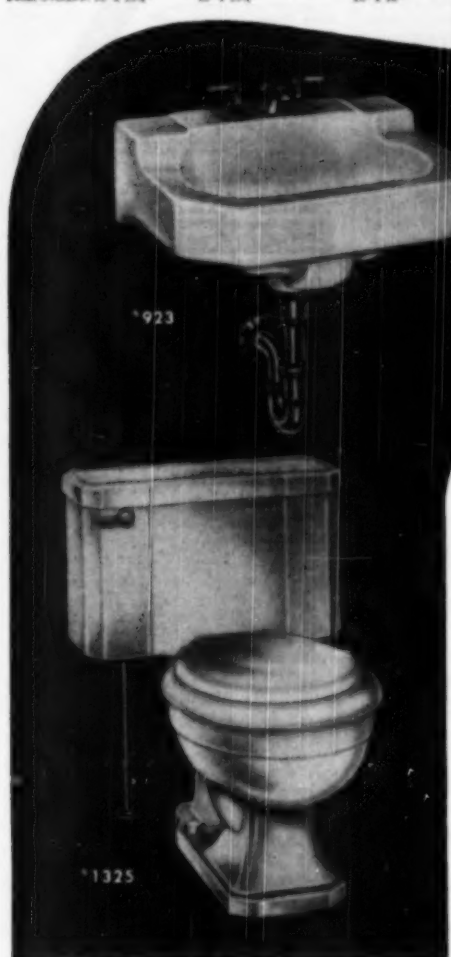
AVON

Vitreous China Lavatory
with back. Has Front
Overflow. Anti-Splash Rim.
20" x 16"

#840

WINSTED

Vitreous China Lavatory
with Integral Shelf,
Square Basin,
Front Overflow. 22" x 18"



#1325

Free-Standing **CAMEL**® Water Saver closet combination.
Has time saving patented tank-to-bowl connection.

Bigger homes, better living accommodations, more bathroom facilities for more people at low cost—all these present day building objectives point to the selection of plumbing equipment on the sound basis of *value*. To help you meet this requirement to the fullest extent, Case quality plumbing fixtures are available in a wide choice. Every fixture is molded of the finest grade vitreous china, highly lustrous and unsurpassed in performance, sanitation and resistance to acids and discoloration. These fixtures are available in colors as well as white. Extra values include exclusive patented features that save installation time and cost, and quality construction designed to hold down maintenance expense. Consult your local housing authorities, and let your Case distributor serve you. Look under "Case" in your Classified Telephone Directory, or write W. A. Case & Son Mfg. Co., Buffalo 3, N. Y. Founded 1853.

Case

**Vitreous China
Plumbing Fixtures**

interested in a
**MODERN CRETE
FRANCHISE?**

Modern Crete is the patented quality masonry unit that handles like wood! Can be sawed and nailed; will not rot or burn; is vermin and termite proof and withstands severest weather conditions; conforms to standards of FHA in the U.S. and NHA in Canada.

Modern Crete is precast locally in vertical panels set in steel channels. Speeds up building, cuts cost and makes more attractive masonry commercial buildings as well as homes. Architects delight in using Modern Crete with its curved, fluted, flat and bevelled panels.

American Builder publicity in March, added to word-of-mouth advertising resulting from successful use of Modern Crete in more than 2,000 homes, has swamped us with inquiries for franchises.

**Inquiries Given Preference
In Order Received**

It takes time to decide which individuals or firms of the hundreds who want this valuable franchise are best qualified to make and distribute Modern Crete. If you have written us about a franchise, be patient—you will hear from us.

Capital Is Not The Only Requirement

To secure a franchise, adequate working capital is necessary, but equally important is wide acquaintance with and knowledge of the building industry, and ability to get into production fast.

Speculators Not Wanted

Franchises will be granted to those who prove their ability and intention to get into volume production and sales within a minimum time. They are not assignable.

Good Territories Still Open

Some of the most valuable territories in the U.S. are open and will remain so, until we find the right combination of capital and experience to exploit them.

MODERN CRETE, Inc. 6-5822 Dart Highway
Flint, Michigan

Without obligation please send me application form for Modern Crete, Inc. franchise and descriptive literature.

Name and title
Firm name
Street & Number
City County State

Association News, Cont'd

**Announce New Officers
At Ponderosa Pine Meeting**

T.L. O'Gara of the Weyerhaeuser Sales Co., St. Paul, Minn., was re-elected president of Ponderosa Pine Woodwork at the association's recent annual meeting in Chicago. New officers are F.E. Bissell, Carr, Adams, Collier Co., Dubuque, Iowa, vice president; Arthur Mohring, Edward Hines Lumber Co., Chicago, treasurer; and James D. Rowland, Andersen Corp., Bayport, Minn., secretary. E.W. Ruddick was re-elected general manager.

Ponderosa Pine Woodwork advertising and sales promotion will continue to concentrate on windows during 1950, General Manager Ruddick reported. In reviewing association accomplishments during the past year, Ruddick cited the new Ponderosa Pine booklet and a newspaper advertising mat program for retail lumber dealers. Several worthwhile co-operative promotional activities were also developed during the year, he said.

Other speakers at the meeting were T.S. Holden, president of F.W. Dodge Corp.; Richard A. Colgan, Jr., executive vice president of the National Lumber Manufacturers Association; Joseph Thompson, assistant general manager, Paint Division, Pittsburgh Plate Glass Co.; and John Normile, architectural editor, Better Homes and Gardens magazine.

**Chicago Design Contest
Discussed on TV Show**

Progress in the second Greater Chicago Home Design Competition, conducted by the Chicago Metropolitan Home Builders Association, was outlined by the assistant superintendent in charge of vocational education for Chicago schools, Hobart Sommers, on a recent "Walt's Workshop" television show.

The home design competition, announced in February by the Chicago Association, offers a total of \$1,800 in cash awards for students below the grade of high school graduate in Chicago and the surrounding counties.

**Important Pine Meetings
During Week in New Orleans**

Three of the most outstanding regular meetings of the Southern pine industry were held in New Orleans during a single week—April 17-20.

The concurrent sessions were the 35th annual convention of the Southern Pine Association; the annual mass meeting of Southern pine manufacturers, under the auspices of the Southern Pine Industry Committee; and a combination meeting and comprehensive sawmill machinery and equipment exposition which used the city's big municipal auditorium as headquarters.

Red Cedar Closet Lining

**Brown's
SUPERCEDAR**
NATIONALLY
ADVERTISED

Guaranteed 90% Red Heart or Better

Only SUPER-
CEDAR is of
the same uni-
form high qual-
ity standard that
guarantees every
package to contain
90% Red Heart or
better, and 100% oil
content that produces
the pleasing aroma

100% oil content
Suggest Cedar Lined
Closets in Every Home
Builder. There is
Nothing Better than



**ALL WIDTHS PUT-UP
48 FT. TO PACKAGE**

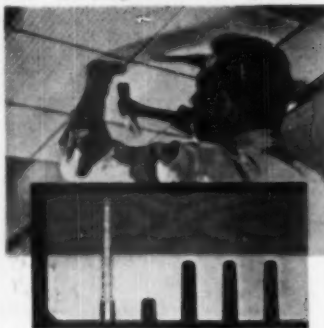
More home builders are
specifying cedar lined
closets today than ever—and
Brown's SUPERCEDAR is na-
tionally advertised to thou-
sands of new home prospects,
architects and builders. SUPER-
CEDAR closet lining is surfaced,
tongue and grooved, ready to put
on with an axe. Packaged and
sealed with the Geo. C. Brown label
and guarantee, famous since 1888.

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LARGEST MANUFACTURERS OF
ARCHITECTURAL RED CEDAR IN THE WORLD

ACOUSTICAL TILE NAILS
... designed for the job



When installing acoustical tile choose a
job-designed nail that combines ease of
application with these special features: a
head and which allows the nail to be
driven home without damaging the tiles
... a collar which holds the tiles firmly in
place ... annular threading which gives su-
perior holding power. The nails are fur-
nished with a plated finish to prevent rust
streaks where moisture is present. Send
for free samples and descriptive literature.



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Brooklyn 22, N. Y.

AMERICAN BUILDER

BRIKSET the only

mortar cement preferred by ALL four

ARCHITECT—Medusa BrikseT impresses the architect as making the most beautiful mortar joints he has ever seen. Its uniform, light gray color can be tinted to any harmonizing shade desired. BrikseT fully complies with ASTM and Federal Specifications for mortar cement.

CONTRACTOR—As the contractor, you are the man who must satisfy the architect, and home owner alike. BrikseT does all that and more. It actually saves you money . . . permits brick walls to go up easier, faster and better . . . without cleaning down masonry.

MASON—No mortar cement has ever made such a hit with the mason as Medusa BrikseT! They like the way it clings to units, and spreads easily. The amazing plasticity permits joints to be struck rapidly with the greatest ease.

HOME OWNER—Home owners want the brick walls of their homes weathertight, strong and beautiful. Above all, they want walls that will retain their beauty for years.



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MEDUSA PORTLAND CEMENT COMPANY
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"OVER 50 YEARS OF CONCRETE PROGRESS"

You can build BETTER with
MEDUSA PRODUCTS

Reg. U. S. Pat. Off.



CEMENTS: GRAY • WATERPROOFED GRAY • WHITE • WATERPROOFED WHITE • BRIKSET • STONESET • AIR ENTRAINING • HIGH EARLY STRENGTH • WHITE TILE GROUT • OTHER PRODUCTS: WATERPROOFING PASTE AND POWDER • MEDUSA PORTLAND CEMENT PAINT • MEDUSA RUBBER BASE COATING

Attendance Up at 2nd Tacoma Home Show



AT BOOTH of Tacoma Master Builders Association, sponsors of second annual Greater Tacoma Home Show are (from left) Harold Larsen, president of the Seattle Master Builders; Sam Anderson, state president of the Washington Master Builders; Mel Pedersen, president of the Tacoma group; and J. Howard Kane, Tacoma executive vice president and Home Show manager. Attendance at this year's show, held at the College of Puget Sound Fieldhouse, was 25 per cent above 1949. More than 30,000 persons visited a \$20,000 "Home of Ideas" built by the sponsoring group. Home was built on permanent site, reached by shuttle buses.

Tennessee—

(Continued from page 66)

The Silver Anniversary Convention of the Tennessee Building Material Association was held March 27-28 at the Municipal Auditorium, Memphis, with approximately 600 persons attending. Exhibitors numbered 54 and occupied 64 booths.



T. O. LASHLEE

T. O. Lashlee, Humboldt, was re-elected president of the group. Also re-elected were G. Ralph Cockrum, treasurer; R. O. Brownlee, secretary-manager; Abner U. Taylor, Jackson, national director; and Fleming Smith, Nashville, vice president for middle Tennessee.

New officers and directors are: Grady

(Continued on page 232)



AJAX
HARDWARE OF PRESTIGE

presents its NEW

NO. 50

COMBINATION COAT and HAT HOOK and GARMENT BRACKET

MODERN, PRACTICAL, PRICED 20% LOWER

- Made of heavy $\frac{1}{8}$ " thick cold rolled steel or brass. This extra thickness gives added strength in use and added richness in appearance.
- Patented design permits use of several garment hangers.
- This wonderfully convenient Coat and Hat Hook is priced 20% lower than similar die cast Coat and Hat Hooks.

ACTUAL SIZE

Projection	—	$3\frac{1}{4}$ "
Height	—	$2\frac{1}{8}$ "
Width	—	$\frac{1}{2}$ "

Available in All Finishes

Write for catalog or samples and the name of your nearest jobber or building supply house.




AJAX
HARDWARE OF PRESTIGE

AJAX HARDWARE MANUFACTURING CORP.

4351 VALLEY BLVD. • LOS ANGELES 32, CALIF.

HOW to shorten the trip from here to here

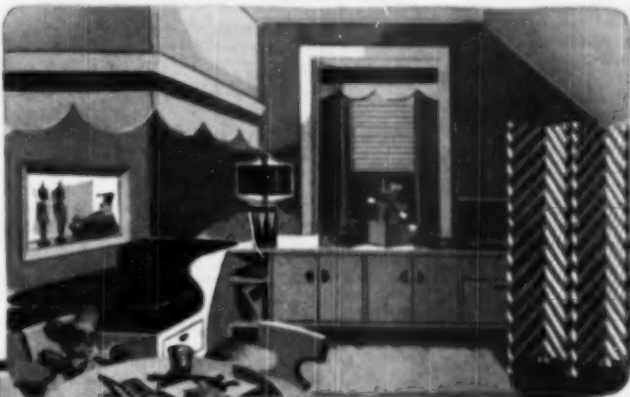


with the MASONITE HARDBOARD FAMILY

From plan to finished structure, the trip is shorter—smoother—when you use the Masonite® Hardboard family! These hard, smooth, grainless wood panels—available in 19 types and thicknesses—speed construction all along the line—reduce building costs—assure quality and owner satisfaction. For example—

HOW to Speed Dry-Well Construction...

Specify super-smooth panels of the new Masonite 1/4" Panelwood®. These big, sturdy panels, 4' wide and 8, 10 and 12 feet long, go right over open framework. Panelwood won't crack, split, splinter or dent—takes any applied finish—gives lifetime service.



HOW to Provide Low-Cost Built-Ins

You can cut the cost of built-in features by specifying Masonite Hardboards. Above, the handy cabinet under the laundry trays has ends of 1/4" Tempered Presdwood®. Doors are 1/4" Tempered Presdwood on wood frames. Masonite Hardboards save construction time because they are so easily worked with ordinary carpenter tools.



HOW to Make Owners Say "Ah"

Masonite Leatherwood— a Masonite Hardboard with the rich texture of Spanish-grain leather—gives you wide scope in planning beautiful rooms at moderate cost. Leatherwood is 1/4" thick, comes in sturdy panels 4' wide and up to 12' long—can be nailed or fastened with adhesive over any solid backing—and even bent to modern curves.

MASONITE



CORPORATION

*Trade-marks Reg. U. S. Pat. Off. "Masonite" signifies that Masonite Corporation is the source of the product.

Useful Information—Years for the Asking—
Mail the coupon!

Masonite Corporation
111 West Washington Street
Chicago 2, Illinois

Gentlemen:

For my files, please send me information and literature about Masonite Hardboards.

Name.....

Address.....

City.....State.....

AB-6

There are 19 Types and Thicknesses of MASONITE HARDBOARDS for 1000 Uses

Association News, cont'd

Organize J. C. Nichols Foundation to Advance Community Development

Announcement has been made of a move to establish a J.C. Nichols foundation to encourage advancement in community planning and development by making annual awards for meritorious work in these fields. Mr. Nichols, of Kansas City, one of the nation's leading community developers, died Feb. 16.

Plans for the foundation will be administered by the Community Builders Council of the Urban Land Institute and will be developed by a committee headed by Ward C. Gifford.

Members of the committee will include Robert P. Gerholz, Flint, Mich., president of the National Association of Real Estate Boards; Herbert U. Nelson, NAREB executive vice president; Richard J. Seltzer, Philadelphia, president of the Urban Land Institute; Thomas P. Coogan, president of the National Association of Home Builders; Frank W. Cortright, NAHB executive vice president.

Newton C. Farr, Chicago; David D. Bohannon, San Francisco; Hugh Potter, Houston; Charles E. Joern, La Grange Park, Ill.; Waverly Taylor, Washington, D.C.; John Mowbray, Baltimore; Fritz B. Burns, Los Angeles; Carl B. Rechner, Kansas City; and William J. Campbell, Kansas City.

Boston Names New Officers



PRESIDENT-elect Arthur H. Oman (second from left) of the Home Builders Association of Greater Boston receives congratulations from outgoing President Alfred D. Cole. Looking on are Harris Altman (left), counsel for the group, and Irving J. Feldman, secretary-treasurer. James Taurasi, not present at the time picture was taken, is the newly-elected vice president and Jim Bonnell is executive vice president of the organization.

Tennessee—

(Continued from page 230)

HARRISON, Memphis, vice president for west Tennessee; H.A. Doak, Greenville, vice president, east Tennessee; Charles Pflanze, Maryville; Mark R. Bell, McMinnville; O. T. Halliburton, Winchester; James F. Parkes, Lawrenceburg; and Jack H. Gates, Memphis.

More than 350 persons attended the annual banquet. Twenty-one dealers who had been members of the association for 25 years were awarded certificates.

Visiting speakers included Rep. Albert Gore of Tennessee; H.R. Northup, NRLDA executive vice president; W.C. Henry, University of Tennessee; Col. Robert B. Brooks, Roy Wenzlick and Co., St. Louis; and Boyd Mahin, Chicago.

That's the one I want to see!

NEW HOME FOR MOST LIVABLE: 2 bedrooms, 2 baths, GULESPRAY TUB ENCLOSURES. Thermos in large living room.

Infopony

Shower Doors and Tub Enclosures

get buyers' attention

Extra sales appeal! Added beauty and convenience! Gulspray Shower Doors and Tub Enclosures are money makers in "HOMES FOR SALE."

for full details write or call...

Binswanger + co.

207 N. Main
Houston, Texas

• 15 warehouses to serve you •

Wherever BETTER HOMES are built you'll find MONARCH IN-A-SLIDE BASEMENT WINDOWS...

1 First Choice the country over are Monarch All-Steel In-A-Slides for apartment buildings, row houses, individual housing projects and small commercial buildings.

2 Alert dealers everywhere are realizing extra profits from these utility-type windows, designed for better and more economical basement daylighting. Can be built up, on the job, from Monarch Mullions and standard size In-A-Slides, in units of from 2 to 6 windows. Inventories are thus kept down, since there is no need for carrying large stocks of various types of windows.

3

4

5

6

Write Dept. & Today. Utility Type Window Units

SOLD THROUGH DEALERS ONLY

When you think of Basement Windows, think of NEW MONARCH MACHINE & STAMPING COMPANY
400 S. W. 11th Street
JEE MONARCH 2-1000

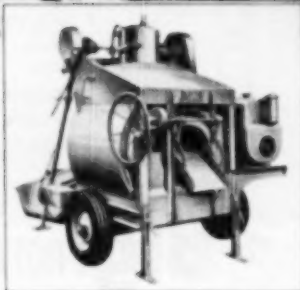
You need today's tools to win today — get **JAEGER!**



You can beat today's higher wage costs—but not with obsolete, worn-out equipment. You've got to have efficient machines that get more production from the same man-hours—that help you win jobs and build them at a profit.

Mix 12 to 15 Extra Yards per day with Jaeger 2 1/2-S Auto-Loader: Load Shaker-Hopper while previous batch mixes and discharges. Open the hopper gate, and new batch automatically shakes into mixing drum, fast and clean. Drum and mixing blade design assure fast discharge. Same rugged construction as larger Jaeger Mixers. Available with, or without, accurate metering water tank, gas or electric power.

And, There's a Jaeger 3 1/2-S Tilter, with famous V-Bottom drum that doubles mixing action, gives fast, clean discharge. Tows behind lightest car or truck. Spots and starts mixing fast. Fastest half-bag tilter made.



Jaeger 6-S, 11-S and 16-S Mixers
Pour More Yardage: Famous Skip Shaker loader shakes loads into drums fast without pounding, scraping or waiting. Jaeger Dual-Mix drum has quicker, clean discharge. Machined-steel drum tracks, Timken-bearing carwheel-type drum rollers, automotive transmissions, lifetime clutches. Gas or electric power. You get more concrete for daily wages paid. Catalog M-8 describes them all.



Jaeger Self-Raising Hoister-Tower Saves up to \$59 a Day — with Cage or Concrete Bucket: Goes to your jobs on truck or transporter, assembles on the ground in 2 hours, then raises itself with 17-hp hoist. Lifts 1-ton loads to 61 1/2'. Available with either material cage or 14 cu. ft. concrete bucket — interchangeable. Saves erecting time, waste and replacement of wooden materials and eliminates ladders. Get Bulletin HS-0.

Jaeger Plaster-Mortar Mixer Keeps Crews of 18 to 20 Men Stepping with better-mixed, higher strength material that handles easier and lays up faster. Saves waste. Takes a full sack of cement or plaster — up to 40 shovels of sand. Easy loading, fast tilt-type discharge. Sturdy, economical gasoline engine. Catalog PM-9 gives details.



"Bantam" Aluminum Pump
Weights 60 Lbs., Pumps 5100 GPH: Primes without fail. Also made in semi-steel. Gas or electric. Other pumps from 7,000 to 240,000 gph. Write for Cat. P-10.

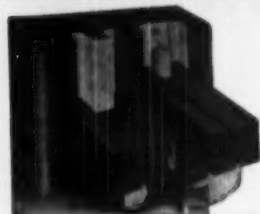
Jaeger "New Standard" Portable Compressors Do 30% to 40% More Work: Deliver more air — 75 ft. instead of 60, 125 ft. instead of 105 — keep tools working at full 90 lbs. pressure. Get the full story — write for Catalog JC-8.



THE JAEGER MACHINE COMPANY
Main Office and Factory — Columbus 16, Ohio

Distributors in 130 Cities of the U. S. and Canada

The Milwaukee
Combination
SASH BALANCE
and
WEATHERSTRIP



Available with or without bronze covers that completely hide spring, as shown above.

**PERMITS REMOVAL OF
SASH WEIGHTS, INSULA-
TION OF MULLIONS.**

Slash Labor Costs

Simple installation allows one man to easily install 30 or more windows in 8 hours. No high-priced skilled labor needed. This means you can get more satisfied customers at lower cost . . . higher profit!

Tops in Operation!

Smooth, positive action; accurate balance; finger-tip control plus the perfect seal against draft, dust, moisture. No wood-to-wood contact. Prevents sticking windows and window rattle.

**EFFICIENT
LOW
COST**



**FOR OLD
OR NEW
BUILDING**

**ATTENTION MILLS AND LUMBER YARDS
IDEAL FOR PRE-FIT WINDOWS**
Can Also Be Sold in Single Unit Packages
Mail this coupon today!

Milwaukee Strip Service, Inc.
4621-23 W. Union Ave.
Milwaukee 8, Wisconsin

Please rush me folder A-6 and price list of Milwaukee Combination Sash Balance Weatherstrip.

Name

Address

City Zone State

Removable Wood Windows In Use in Over Half A Million Homes

Gordon Love, Sales Manager of R•O•W Sales Company, announces that the R•O•W Removable Wood Window is now in use in well over a half-million homes.

Since the introduction of this window in 1939, six-million have been sold nation-wide. The rapid acceptance of this window has made R•O•W the world's largest selling wood window unit.

Advantageous Use of Site Urged by Research Group

Two major factors which families should consider in buying a home are the location of the house on its site and the treatment of the site itself, according to the Southwest Research Institute's Revere Quality House Division, San Antonio, Texas. These factors are frequently overlooked in building, the Institute added.

"In the case of a good contemporary custom-designed house," John H. Callender, the group's architectural consultant, said, "the lot's original slope has been retained. Existing trees have not thoughtlessly been stripped away. The house is given the effect of shading the living terrace. A rock out-being designed around a fine tree cropping have been left in its natural state and developed into a rock garden.

"By proper planning and foresight in developing the lot today, carefully planned house is given a look of 'belonging.' The house has obviously been built to take best advantage of the view, to utilize tree shade of the trees, and to give the family privacy in its outdoor living areas.

"The quality contemporary house, which is gaining constantly in popularity, is inconspicuous from the street. The natural finished wood of its front elevation blends into the trees and shrubs. Front windows are few and are placed high on their walls, thus adding to privacy within the house while still assuring light and air. At the rear of the house—generally facing south—windows are large and in the living and dining areas reach from ceiling to floor. Doors open out onto a flagstone terrace, sheltered partly by an overhanging roof.

"The house has been adapted to its site, and the best natural characteristics of the site itself have been utilized to the fullest. All of this adds up to more pleasant surroundings and more attractive character to the house.

NEW! NEW! 6-FOOT LEVEL Tremendous Value ONLY \$9.50

POSTPAID

6-Foot 8-Vial Metal
Precision Level

4 plumb, 2 levels, 2 45-degree vials. Use either end of edge up. Light, strong aluminum alloy. $\frac{1}{8}$ " x $2\frac{1}{4}$ " x 72" I-beam construction. Non-warp. Far stronger than a casting. Weighs only 4 lbs. Equipped with EZ set glass holders. Can be replaced in a minute with an ordinary screw driver. No returning to factory. For replacement, extra holders mailed 50 cents each. Other sizes: 24"—\$1.25, 30"—\$1.50, 36"—\$2.75, 42"—\$4.00, 48"—\$4.75, 54"—\$5.50, 60"—\$6.00 each. Above have 4 plumb, 2 levels. Sent postpaid, cash with order. Designed by F. Sander, originator aluminum levels. 50 years of level experience.

PATENTS PENDING

SIMPLEX LEVEL CO.

6826 E. Warren Ave.

DETROIT 7, MICH.

FASTER EASIER **Big PROFITS** the **REID-WAY!**

Hire a REID-WAY "8" as Your
Easy-to-work-with
Business Partner

Here's really a one-man sander . . . it's so lightweight, so easy to handle that you can carry it to the job in your own car . . . and yet the REID-WAY "8" is sturdy and durable. This IS your chance to get into business for yourself with this hard-working, veteran.

- ★ COVERS MORE FLOOR
- ★ ONE MOVING PART
- ★ LIGHT WEIGHT

These are the forces that make a REID-WAY "8" the first sander for you.



BUILT TO
TAKE IT

WRITE TODAY
For Further Details

REID-WAY, INC.

2917 1st Ave. S.E., Cedar Rapids, Iowa



ARCHITECT: George A. Ebeling, Cleveland, Ohio

Decorative strip is K&M "Century" Asbestos-Cement Corrugated

SPECIFICATION: K&M "Century" APAC

This modern Mentor, Ohio, drive-in theatre is a sample of the smart, practical, and economical structures being built with K&M APAC.

This versatile Asbestos-Cement Board is ideal for large, exposed surfaces—both interior and exterior. The initial cost is low; application is simple, therefore, quick and inexpensive; and K&M APAC resists not only weather, but also rot, rust, rodents, termites, and, of course, fire. And your customers will be pleased to find the installation economies are carried a

step further—K&M APAC does not need paint at any time to hold its attractive, durable finish.

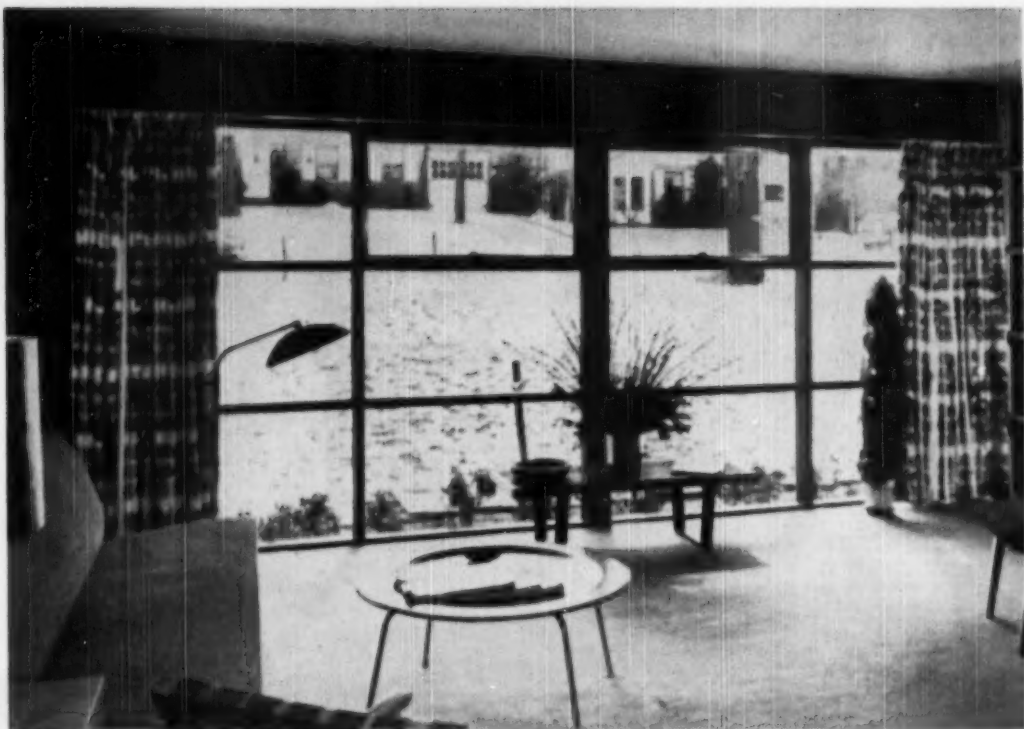
Recommend K&M APAC wherever progressive design and construction are called for—for theatres, stores, residences, multi-family dwellings, and for all types of industrial structures. Recommend it, too, as an inexpensive material for remodeling existing structures. K&M APAC is adaptable, easy-to-handle, and profitable for you!

GET THE COMPLETE STORY... Ask your K&M dealer for specification and application data, or write us direct.

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA

Original manufacturers of Asbestos-Cement Roofing Shingles in this country.





NO BUILDER SHOULD HESITATE...

"There should be no hesitation on the part of any builder, costwise, in designing Thermopane into his homes", says Russell H. Benjamin, president of the company bearing his name in Tenafly, New Jersey. "We are happy in our choice of this very practical, flexible and beautiful medium."

Like many builders, Mr. Benjamin wished to provide a feeling of spaciousness by "opening" the living room with a window wall. Knowing that *Thermopane** insulating glass increases personal comfort near windows, he went all the way and used it in all windows of 36 homes.

Mr. Benjamin employs a method of window wall construction which cuts material costs and man-hours to rock bottom. The *Thermopane* units are installed in dressed 2 x 6 mem-

bers which are rabbeted to accommodate *Thermopane*. The *Thermopane* is cushioned in glazing compound and held in with stops.

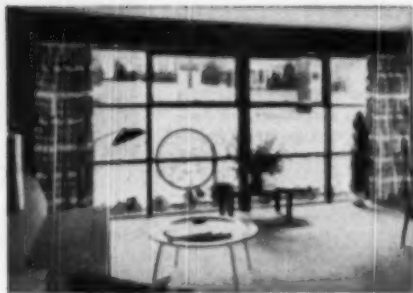
Other builders also have developed simple and low-cost methods for *Thermopane* installation to keep costs down. Three of these methods are shown on the opposite page.

Here's tremendous appeal to buyers—at little or no extra cost. Have you figured the benefits of *Thermopane* for your houses? .g

FOR BETTER VISION SPECIFY **THERMOPANE**
MADE WITH POLISHED PLATE GLASS



Suggested framing details for LOW-COST THERMOPANE WINDOW WALLS



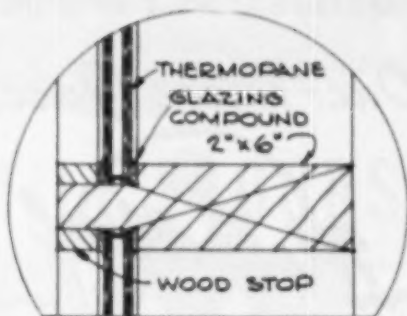
Many builders are installing *Thermopane* in economically-built window walls in which dressed dimensional lumber doubles as structural members and as frames for *Thermopane* units.

The window wall above is made of 2 x 6's with halved, notched or butt joints. This forms a satisfactory frame for the *Thermopane*, with a minimum of time and materials.

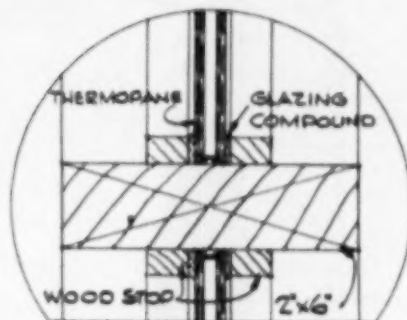
The details at right show three suggested methods of framing *Thermopane*.

Dimensions of the openings should be one-half inch larger than the size of the *Thermopane* unit to be installed. It is important that ample glazing compound be used to cushion the *Thermopane* unit. Setting blocks are required for all *Thermopane* units whose width and height combined total 80 inches or more.

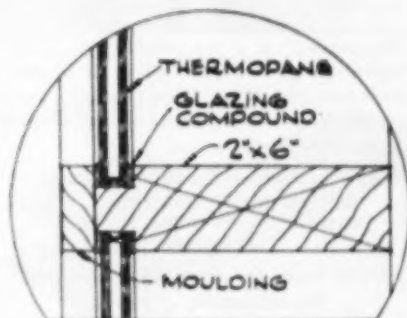
Thermopane is made in more than 80 standard sizes, as well as special sizes, to meet your design requirements economically and quickly. For complete glazing instructions, standard sizes and other pertinent data, see your L-O-F Distributor. Or write us.



No. 1—Rabbeted 2 x 6, with stops.



No. 2—Non-rabbeted 2 x 6, with *Thermopane* centered, using stops inside and out.



No. 3—Rabbeted 2 x 6, with single stop.



Thermopane

MADE ONLY BY LIBBEY-OWENS-FORD GLASS COMPANY

3545 Nicholas Building, Toledo 3, Ohio

The beautiful
HARDWOOD
UTILITY PLYWOOD

with
One-Piece Face!



Mengelbord* is a low-priced 3-ply utility hardwood plywood, 1/4" thick. It is made from beautiful White Gum (Tupelo), has a one-piece face, with no joints or oval patches to mar its appearance.

Mengelbord is ideal for all interior uses:

DRY WALLS	PARTITIONS
CABINETS	STORE FIXTURES
	FURNITURE

*Write today for descriptive literature.
 No obligation, of course.*

Where fine wood panels of Mahogany, Oak, Birch or Walnut are desired—ask for Mengelux*.
 Literature on request.

THE MENGEL COMPANY
 Plywood Division • Louisville 1, Ky.

*Reg. U. S. Pat. Off.

**Building Pattern Firm Develops
 Home Construction Technique**

WHILE designing window valances for his own home, Donald R. Brann of Pleasantville, N.Y., well-known to retail lumber dealers, got the idea for a building pattern business. The business now includes distribution of more than 130 patterns for well-designed household articles which carpenters are finding advantageous in obtaining extra work and saving time—and the latest development is a simplified technique for home building said to cut costs both for builders and for home purchasers who elect to complete part of the house themselves.



DONALD R. BRANN

The Easi-Bild Pattern Co. was started in 1940. The first set of 18 patterns found ready acceptance among carpenters and retail lumber dealers and Brann went on with additional designs. The idea caught on and attracted considerable interest among home-owners when it was featured editorially in a number widely-circulated consumer magazines.

Today, the Borden Co., Stanley Works, Atlas Press Co., Sears, Roebuck and many other firms feature Easi-Bild "Build It Yourself" patterns as a means of promoting sale of their products. Their advertising emphasizes the point that people are helping themselves by making use of the simplified patterns. According to Brann, the success of the Easi-Bild Co. has depended on this idea of appealing to people to "pitch in" themselves in producing things they want.

Easi-Bild's latest house pattern is No. 501, designed by Architect Edward E. Stone. The firm took the architect's original drawings and, while not changing the exterior appearance, redesigned the construction details to simplify erection.

Nuts, bolts and Teco fasteners are used in the construction of all framing members, posts, rafters, etc. Only about 12 pieces of 1x6 are required for exterior bracing. Under the pattern system each post becomes a free-standing member on erection and remains rigid, free-standing and in plumb position with only one 1x6 diagonal brace.

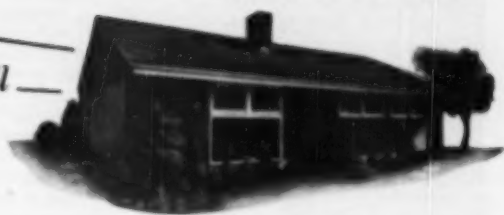
In describing the No. 501 pattern, Brann said: "The interpretation we have developed for this house is one every builder can use. This pattern not only permits him to cut and drill framing members away from the site, if he so desires, but he can also erect this house in about one-third less man hours by following our step-by-step procedure.

"By following the pattern method he cuts down on every possible waste motion and eliminates the possibility of wasting lumber. I believe that Pattern No. 501 is the simplest method yet devised whereby the skilled or semi-skilled person can build a house. This particular house is one that can be extended to any length desired.

Speaking of the shell-type or owner-completed house, Brann commented: "The missing link in the successful merchandising of the shell house lies in the inability of the average customer to believe he can do the finishing himself. We fill this need by offering a method the individual understands so clearly that he can take over the completion of the house at any stage of construction he desires."

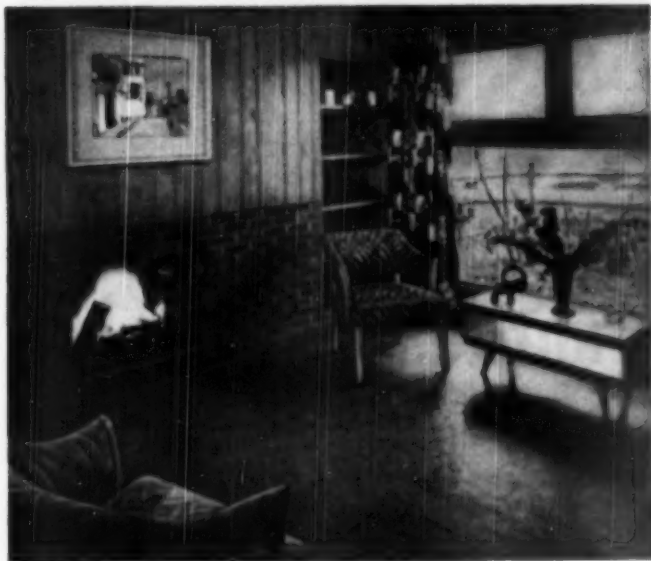
*This house cost less to build
and is easier to sell*

*One of the low-cost homes built by Gordon
Bronson, C.E. in New Brunswick, New Jersey.
Kentile Floors are installed in every room.*



thanks to low-cost, beautiful

KENTILE FLOORS



As selling becomes more competitive, Kentile's advantages become even more important to the builder.

Kentile cuts construction costs

Tile by tile installation speeds installation in large or small areas. No heavy rolls to transport, handle and cut—labor costs are lower. No expensive preparation of the sub-floor is necessary—and because Kentile can be walked on as soon as laid, there are no construction delays.

Ideal for low-cost non-basement homes

Kentile can be installed on concrete in direct contact with the earth. It is resistant to the alkali and moisture present in concrete—and its asbestos filler acts as insulation against dampness and moisture.

KENTILE makes homes more saleable

Colorful Kentile Floors add eye appeal to any interior. Wide variety of colors enables you to create designs suitable for every room in the house—and decorative inserts (ThemeTile and Kenserts) can be added to give custom-made distinction at low cost. National advertising in leading magazines has "sold" your prospects on the durability, ease-of-cleaning and all-around desirability of Kentile Floors. Your Flooring contractor will give you full details about Kentile.



KENTILE®

The Asphalt Tile of Enduring Beauty



DAVID E. KENNEDY, INC., 58 Second Ave., Brooklyn 15, N. Y. • 350 Fifth Ave., New York 1, N. Y. • 705 Architects Bldg., 17th and Sansom St., Philadelphia 3, Pa. • 1211 NBC Bldg., Cleveland 14, Ohio • 225 Moore St., S.E., Atlanta 2, Ga. • Kansas City Merchandise Mart Inc., 2201-S Grand Ave., Kansas City 8, Mo. • 1440 11th St., Denver 4, Colo. • 4532 South Kolin Ave., Chicago 32, Ill. • 1113 Vine St., Houston 1, Texas • 4501 Santa Fe Ave., Los Angeles 58, Calif. • 95 Market St., Oakland, Calif. • 452 Starler Bldg., Boston 16, Mass.

Resume of Provisions, Housing Act of 1950

Title I

1. Amendments to Title I of the National Housing Act.

a. Extends Title I of FHA until July 1, 1955 and sets up revolving fund of \$1,225,000,000 for insuring modernization loans.

b. Replaces the Title I, Class 3 type of insurance on residential mortgages with a new section 8. The new section limits mortgages to \$4,750, not exceeding 95 per cent of the appraised value of the property; but authorizes the FHA commissioner to raise the limitation to \$5,600 in areas designated as high-cost. Maximum interest rate is 4 1/4 per cent.

Although still a Title I loan, the new Section 8 is similar to insurance on mortgages under Section 203 of Title II, with applications for insurance processed by FHA and with FHA inspection and appraisal. While FNMA is available as a secondary market for loans insured under this section, no lending institution may sell more than 50 per cent of its secondary mortgages to FNMA.

FHA structural standards similar to those of the old Class 3, Title I are set for the new section. The principal amount of the builder's mortgage can-

not exceed \$4,250, or 85 per cent of the appraised value of the property. Provision is made to raise this sum to \$5,000 in higher-cost areas.

The new Section 8 applies principally to new structures erected in suburban or rural areas and other places where FHA regulations make it impossible to obtain insurance under Section 203 of Title II.

a. Amendments to Title II of the National Housing Act.

a. The maximum amount of insurance which may be outstanding at any one time under Title II was increased to \$7,750,000,000. The president is authorized to add another \$1,250,000,000 to this amount.

b. Section 203 (b) (2) (A) has been amended to permit an additional \$4,500 (over the former \$16,000 mortgage limit on dwellings designed for not more than four-family occupancy) for each unit over two. For example, a four unit development may carry a mortgage not exceeding 80 per cent of the appraised value or \$25,000, whichever is less.

c. Section 203 (b) (2) (B) is repealed.

d. Section 203 (b) (2) (C). Mortgage insurance under this section was changed to 95 per cent of the first

\$7,000 of value, plus 70 per cent of the next \$4,000, or a maximum mortgage amount of \$9,450. It was formerly a maximum of \$9,500—90 per cent of the first \$7,000 and 80 per cent of the next \$4,000. These amounts may be adjusted by FHA regulations in certain areas.

e. Section 203 (b) (2) (D). The former \$6,000 mortgage limit on these 95 per cent 30-year mortgages was raised to \$6,650. In high cost areas FHA may increase this sum to \$7,600 for one or two-bedroom houses and, where third or fourth bedrooms are added, the amount may be increased by \$950 for each additional bedroom. Insurance can be obtained by the builder at 85 per cent of value, or not exceeding \$5,590 for a one- or two-bedroom unit (\$6,800 in high-cost areas). These limitations may be increased at FHA discretion by \$850 each for the third and fourth bedroom in high-cost areas.

f. Section 207 of Title II. Designed as a substitute for the expiring Section 608 in financing of multiple-units on rental property, this section has been amended to provide mortgage insurance of 90 per cent of the first \$7,000 of estimated value, plus 60 per cent of

(Continued on page 242)

When you build with RILCO ...we do half the work!

RILCO TIED ARCHES



This Type 70 Tied Arch is placed 2' O.C. and serves as roof rafter as well as ceiling joist. Each unit is precision-cut and drilled at the factory so your crew need do nothing but place them in position. All the necessary hardware is furnished. Rilco Tied Arches are made in sizes up to clear spans of 60 feet.

RILCO BOWSTRING TRUSSES

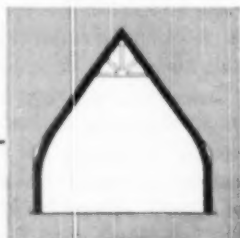


These sturdy units come to the job knocked-down or assembled ready to be swung into position. No on-the-job cutting or fitting to slow you down. Upper and lower chords are glued-laminated kiln-dried Douglas Fir. Web members are solid timbers. All hardware is furnished and can be installed without special tools. Rilco Bowstring Trusses are made in sizes up to 150 feet clear span.

RILCO TYPE 54 AND 59 ARCHES—Excellent for airplane hangars and similar structures where interiors must be free of supports. Rilco arches provide sturdy, joint-free strength from foundation to ridge.



RILCO CHURCH ARCHES—Rilco makes many designs, all distinguished for their graceful curves and the beauty of their graining. Rilco engineers will gladly develop special designs for specific structures.



RILCO WORKS WONDERS WITH WOOD
Laminated PRODUCTS, INC.

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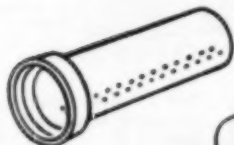
acids can't affect **CLAY PIPE**

THE ACIDS AND CORROSIVE CHEMICALS present in sewage, ground waters, and many kinds of soil can't hurt Vitriified Clay Pipe. Builders can rely on it—to protect their reputations by lasting forever, and to maintain their profits on every job. Easy-to-get fittings come in a complete assortment for easy, time-saving installation. Clay Pipe and Fittings are chemically inert, completely safe, because they're

all pure clay, heat-bonded at temperatures exceeding 2000 degrees F. . . the only basic pipe material that never wears out.

NATIONAL CLAY PIPE MANUFACTURERS, INC.

1105 Huntington Bank Bldg., Columbus 15, Ohio
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100 N. LaSalle St., Rm. 2100, Chicago 2, Ill.
206 Connally Bldg., Atlanta 3, Ga.



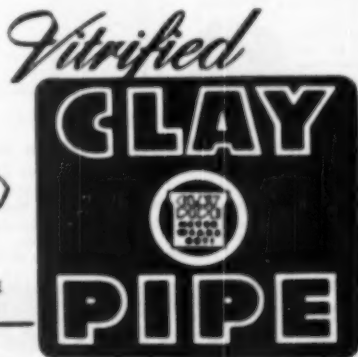
**PERFORATED
CLAY PIPE**



**STANDARD-
STRENGTH
CLAY PIPE**



**CLAY PIPE
FITTINGS**



C-290-24

Housing Act of 1950

(Continued from page 240)

the next \$3,000, or a maximum mortgage per unit of \$8,100. It is stipulated, however, that unless the project averages 4½ or more rooms the mortgage amount will be cut back to \$7,200.

3. Amendments to Title III of the National Housing Act.

a. Federal National Mortgage Association. FNMA received an additional \$250,000,000 for the purchase of mortgages. The agency's power to make advance commitments for the purchase of mortgages was removed. FNMA may purchase up to 100 per cent of VA Section 501 farm mortgages and Section 501 loans. Lending institutions may not sell to FNMA more than 50 per cent of the mortgages which it has issued and insured under FHA after April 30, 1948 (including Section 8, Title I mortgages).

4. Amendments to Title VI of the National Housing Act.

a. Section 608 was allowed to expire, with \$500,000,000 appropriated for applications filed before March 1, 1950.

Title II

1. Lanham Act Housing.

Permanent and temporary Lanham units were transferred to local public housing authorities.

Title III

1. Amendments to G.I. Bill of Rights.

a. The term of G.I. loans was extended from 25 to 30 years.

b. Section 501 was amended to provide 60 per cent of the aggregate amount up to \$7,500. The former guarantee was \$4,000 or 50 per cent.

c. Section 505 (a) combination FHA-GI loans were extended until Dec. 31, 1950, with the provision that the VA administrator may at his discretion terminate these loans earlier.

d. The VA administrator was allotted \$150,000,000 to make direct loans to veterans at 4 per cent, loan total not exceeding \$10,000. In order to qualify for direct loans, veterans must show that they are unable to obtain regular 501 or 502 loans in the area.

e. Unmarried widows of veterans were made eligible for G.I. loans.

Title IV

1. Loans to Educational Institutions.

\$300,000,000 was made available for direct loans to educational institutions for student and faculty housing at a rate of interest equal to 10-year government bonds plus one-fourth of one per cent.

Title V

1. Financing Charges.

Directs FHA commissioner and VA administrator to prescribe maximum fees which will be applicable uniformly to all classes of mortgages for the purpose of limiting the charges and fees imposed upon the builder, veteran or other purchaser and requires certification from mortgage that no financing fees or charges in excess of those permitted under FHA and VA regulations have been imposed.

California Starts National Trend To Oppose Socialized Housing

California's state-wide referendum on socialized housing was the first conclusive demonstration through the ballot box to the American people that government ownership and operation of homes is unpopular. Herbert U. Nelson, executive vice president of the National Association of Real Estate Boards said at a recent meeting of the Los Angeles Realty Board.

"Claims of a mandate for socialized housing," Nelson said, "were knocked into a cocked-hat when the November 1948 voters of California decisively rejected the issue at the same time they put President Truman and other Democratic candidates in office."

4 Big Advantages of ALCASCO Aluminum Casements

1 • FULL 1½" SECTIONS

Available only in Alcasco . . . structurally stronger. Putty retaining groove—built into each section and designed for easy outside glazing.

2 • EXTENSION HINGES

Solid aluminum . . . Sturdy and trouble free. Pull support. Stainless steel pin assures correct operation at all times.

3 • INSULATED GLASS

Alcasco Aluminum Casements can be furnished for regular plate or insulated glass in ½", ¾", or 1" thickness.

4 • INTERLOCKING MULLIONS

Easy to assemble—simple to install . . . Provides a perfect weather seal due to precision fabrication.

PLUS these other Alcasco aluminum casement features

- extruded members are smooth—fit snug at all points
- corners electrically flash welded—greater strength . . . more rigid . . . neat, smooth appearance
- stand inspection—customer satisfaction assured by the obvious evidence of careful workmanship
- selection—over forty styles to choose from
- approved—over 75,000 Alcasco Aluminum Casements have been sold through Building Material Dealers since 1947.

Send for details and descriptive literature.

**ALWAYS
ALCASCO
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PRODUCTS, INC.

1144 NINTH ST., MUSKEGON HEIGHTS, MICH.

75 Years of Service ...

**Manufacturers and Distributors
of Lumber and Lumber Products
For the Lumber Industry**



**QUALITY WOOD
PRODUCTS**

From Long-Bell Douglas Fir and Ponderosa Pine factories — quality Frames, Industrial Cut Stock, Sash & Doors, Glazed Sash Box Shook ... Kitchen Cabinets ... Unpainted Furniture ... Pre-fabricated Building Stock ... varied Products.

**OAK FLOORING
PONDEROSA PINE
PLYWOOD
TREATED PRODUCTS**

... Woods treated with creosote and standard salt preservatives, from Long-Bell Wood Preserving Plants.

Three-quarters of a century of superior service to customers has brought Long-Bell Lumber Company up from one little yard and mill to pre-eminence in the world of lumber operation. Today Long-Bell operates 14 large manufacturing plants and 4 modern treating plants in southern and far western states.

In 1950—as for the past 75 years—Long-Bell Lumber Company's manufacturing and treating plants and sales representatives are prepared to supply a complete line of lumber and lumber products from the Long-Bell forests and plants.

**MANUFACTURED FROM
DOUGLAS FIR • WEST COAST HEMLOCK • SOUTHERN PINE
PONDEROSA PINE • WHITE FIR • SOUTHERN HARDWOODS**

The Long Bell Lumber Company

Established 1875
KANSAS CITY 6, MISSOURI
DIVISIONAL SALES OFFICES

Eastern Division, Kansas City, Missouri

Western Division, Longview, Washington



EARLY American charm of this home is represented both outside and in, and the builder-owner says it has served as a valuable advertisement of his work. Siding is Red Cedar.

Interior Woodwork Blends with Period Furniture

With an antique stain finish, ornamental iron hardware, and carefully selected knotty pine. Builder-Architect Donald L. Cederlund of Grand Rapids, Mich., has finished the interior of his own home to closely match the design and coloring of early American furniture. Though his main reason for so doing was to satisfy his own tastes in interior finish, Cederlund wanted his home to serve as an example to prospective home buyers. "People," he said, "are more interested in having me build a home for them, in many cases, when I can demonstrate how interior woodwork can be finished to harmonize with furniture."

Knotty pine selected for firm knots is used on all walls of

a basement recreation room in the Cederlund home which is finished to look like the public room of an early American inn. The knotty pine is covered with a coat of antique pine finish water stain to match the color of the early American furniture. This stain, "Enterseal," made by the Enterprise Paint Manufacturing Co., is wiped off, then the surface is steel woolled. The final finish is paste wax, rubbed in. The result is a color closely matched with the early American furniture, and a hard finish with great durability. "Enterseal," available in six colors, penetrates into the pores of the wood and hardens to form a seal against moisture.

(Continued on page 246)

**meet your
NEW TILE
SALESMAN**

**J.M.J. TILE CUTTER
RENTAL SERVICE**

and

HELPS FOR YOUR NEW SALESMEN

Forms: Complete forms for handling J. M. J. Rental Plan.

Ad Mats: Free mat service for use in local promotion.

Point of Sale Displays: Eye-catching window and counter displays push the J. M. J. Rental Service.

The J. M. J. Tile Cutter Rental Service will be backed up by national publicity and advertising.



GET MORE TILE SALES THROUGH RENTAL CUTTERS

Now Tile Dealers can give a complete rental service on tile cutters, can identify their stores with J. M. J. Tile Cutter Rental Service and increase their floor traffic. Over a year of actual testing at the retail level proves large sales increase due to rental cutters.

PROFIT FROM RENTAL

In field test, the J. M. J. Rental Cutter was out 90 per cent of the time. The J. M. J. Rental Plan outlines how you can profit from this demand.

HELPS CUSTOMERS

The J. M. J. Rental Cutter makes it simple for the customer to do an accurate and easy job of home tile laying. It helps the dealer show the customer how to do it.

CLINCHES SALES

Free use of the J. M. J. Rental Cutter helps to clinch sales. Goodwill can be increased by including free use of the cutter where the purchase warrants it.

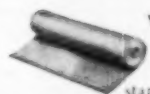
SEND TODAY FOR FREE OUTLINE OF J. M. J. TILE CUTTER RENTAL SERVICE AND NAME OF NEAREST DISTRIBUTOR - DISTRIBUTORSHIPS AVAILABLE IN SOME AREAS - INQUIRIES INVITED

J.M.J. PRODUCTS CO. ENGINEERS MANUFACTURERS
BELLEVILLE, ILLINOIS

THE MOST INSULATING EFFICIENCY IN THE SMALLEST PACKAGE!



Reynolds Aluminum Reflective Insulation



With just a 15-lb. package under each arm you've got 500 square feet of high-efficiency insulation, ready to tack or staple in place (250 sq. ft. to the roll; 25", 35" and 36" widths). And you've got a vapor barrier that rates top of the list in the National Bureau of Standards Report BMS63. All at extremely low cost!

This aluminum reflects up to 95% of radiant heat...away from the house in summer, back into the house in winter. It's aluminum foil mounted to both sides (Type B) or one

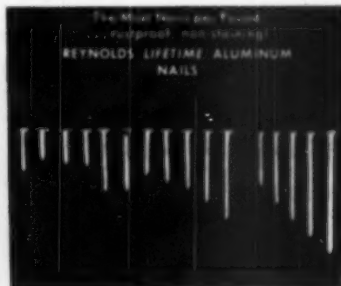


side (Type C) of tough kraft paper. Pressure-embossed in attractive design for extra solidity...clean, pliable, easy to cut and handle.

Type B is the ideal insulation and vapor barrier under floor joists over unheated crawl spaces. It divides stud space in side walls to provide two reflective faced air spaces. Excellent over ceiling joists or under rafters. Especially important under new FHA vapor barrier requirements. Mail coupon for full details. **Reynolds Metals Company**, Building Products Division, Louisville 1, Ky.



The Most Inexpensive Permanent
on the Lowest Price!
**REYNOLDS LIFETIME ALUMINUM
GUTTERS & DOWNSPOUTS**



The Most Economical Fastener
...rustproof, non-shaking!
**REYNOLDS LIFETIME ALUMINUM
NAILS**

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RESIDENTIAL CASEMENT,
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INDUSTRIAL CORRUGATED
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Building Products Division,
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| <input type="checkbox"/> Reflective Insulation | <input type="checkbox"/> Gutters |
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"KING" INCLINE TRACKS Are Making Friends Everywhere!

You too can quickly simplify your problem of lifting material to workmen on buildings. Use an INCLINE-TRACK! King will furnish you with sturdy carrier and two outer sheaves . . . plus complete blueprints for easy building of the track. You can use regular 2" x 6" pine lumber. Used in conjunction with any hoist having a single line pull of 400 pounds or more, the INCLINE-TRACK can carry up to 1000 pounds of material. Stop wasting costly man hours today! Get a simple, practical, low-cost INCLINE-TRACK now! Send for literature.

* Made by the makers of King Portable Hoists and Hoisting Wheels.

"KING" MANUFACTURING CORPORATION
3142 W. Chicago Ave., Chicago 22



All-Steel, Heavy-Duty Mortar and Putty Boxes

• Bostwick Mortar and Putty Boxes are made of heavy hot rolled steel with watertight all-welded seams and with smooth reinforced flanges.

The clean, sloping inner design makes mixing and cleaning operations easier. Because all flanges are equipped with Bostwick's special bumpering attachment, the boxes can easily be stored in straight nesting stacks with each unit separated from its neighbor. Stacks build up straighter . . . individual boxes never jam together.

Bostwick Mortar and Putty Boxes are in demand by builders everywhere. Available in six sizes to fit every need. Write today for descriptive folder. Ask about the entire Bostwick line of Metal Lath and Metal Lath Accessories.

THE BOSTWICK STEEL LATH COMPANY
103 HEATON AVENUE • NILES, OHIO

Interior Woodwork . . .

(Continued from page 244)



MANTLE and wall above fireplace are of Amerwood

Features of the Cederlund's recreation room include a fireplace with knotty pine mantle, a snack bar complete with storage cabinets, a range, refrigerator, and sink with hot and cold water. The storage cabinets, on the wall behind the bar, are built to order with Kenney ornamental iron hinges, hasps and catches.

Dining and living rooms of the six-room home have exposed sandblasted pine false beams across the ceiling, finished in the same color as knotty pine in the recreation room. Surface of ceiling between the beams is papered. Mantle of the living room fireplace and the wall above the fireplace to the ceiling are covered with Amerwood, sandblasted pine made by the Southworth Corp., also stained to match the Cederlund's early American furniture.

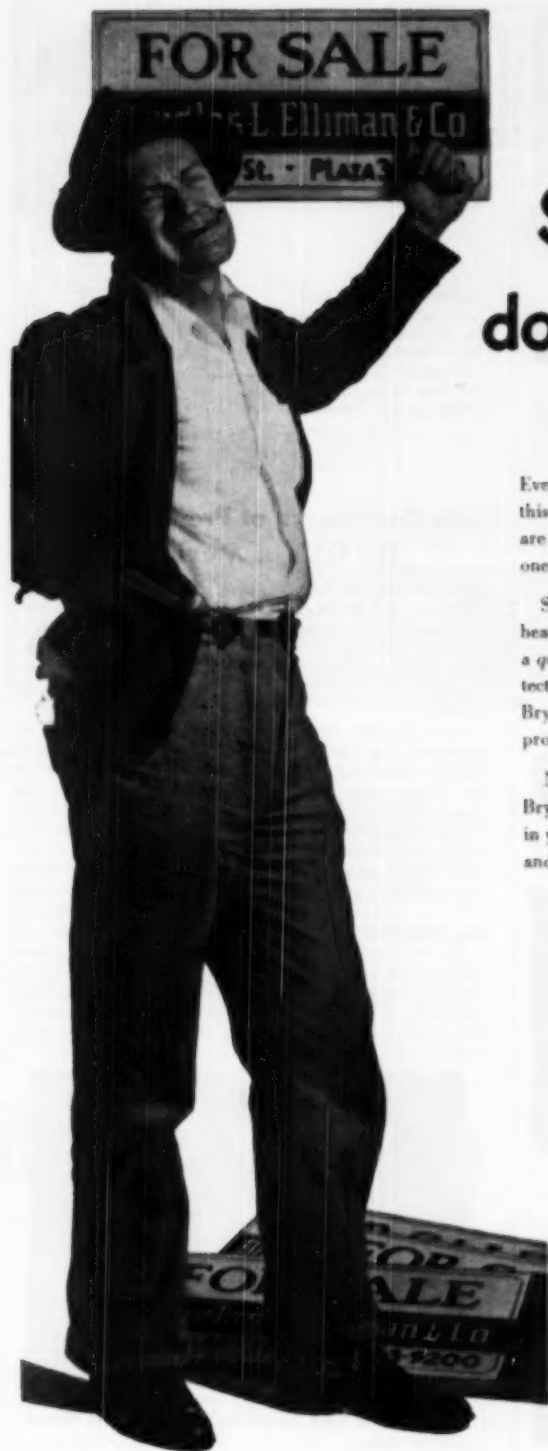
Across the living room from the fireplace, twin book shelves and cabinets made by carpenters of Cederlund's firm, cover almost the entire wall. The shelves, one at each end of the wall, extend from about three feet above the floor level to the ceiling. They are joined at the top by an arch made of one 1 x 12-inch select pine board, carved to match graceful lines of a pattern taken from the furniture. Behind this arch, which extends along the underside of the false ceiling beams, are fluorescent lights to provide indirect lighting on the wall. Twin cabinets below the shelves have ornamental iron hardware and are designed to match early American furniture.



BOOK shelves and cabinets match period furniture

COMING IN JULY ISSUE
127 Ideas on Kitchens and
Bathrooms with Pictures
and Drawings

AMERICAN BUILDER



Some houses don't need signs!

Ever notice how some houses never bear a sign like this? Check up, and you will find, in many cases, they are the houses where Bryant automatic gas heating is one of the modern features.

Somehow, people *sense* quality. They seek out Bryant heated homes because they are confident of each being a *quality* house from inside out. That's why—for architect, builder and real estate man—the very presence of Bryant equipment means greater demand for any property, a quicker deal and a better satisfied client.

No matter what your heating requirements, there's a Bryant to fit your needs. Call the Bryant representative in your locality. Let him help you. Then, specify Bryant and see for yourself why *some houses don't need signs!*



The most complete line of gas heating equipment in the nation

Bryant Heater, Dept. 255,
17825 St. Clair, Cleveland, Ohio
() Send me the new booklet that tells
the Bryant story. () Have your dis-
tributor call on me.

Name _____
Company _____
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New! **INSULITE**
INSULATING
WOOL

MADE OF
FIBERGLAS
FIBERGLAS INSULATING WOOL
OWNERS: CONSUMERS INTERNATIONAL CORPORATION

in the New
improved
ROLL BLANKET PACKAGE

**AND THREE OTHER
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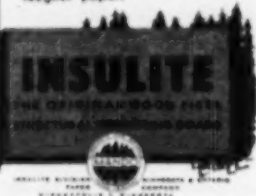


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in layout and plan-
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installations that costs
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SAMPLES FOR YOUR INSPECTION AND FOR
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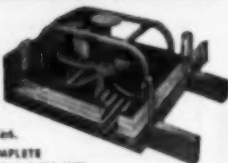
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OVER 800 AUTHORIZED CHELSEA DISTRIBUTORS
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**OVER 150 DIFFERENT
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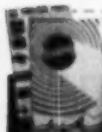
Whatever the need, for home,
office or factory, look to
CHELSEA for the practical,
efficient solution to your ven-
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WRITE FOR THE COMPLETE
ARCHITECTS AND BUILDERS KIT!

Just call or write Dept. K for your free
guide to comfort cooling — the feature
that makes any new home easier to live!

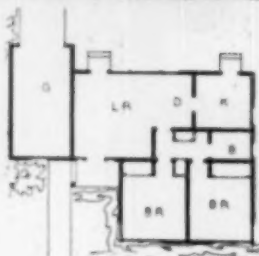
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RENDERING and floor
plan of typical house
in Allied Contractors,
Inc.'s Rancho Burke de-
velopment of 68 two-
bedroom homes for mi-
nority group veterans



**Cite Developers of Project
For G.I.'s of Mexican Descent**

WHEN Rancho Burke, a development of 68 two-bedroom homes for veterans of Mexican descent, was recently completed in Los Angeles, the project proved so successful that the American Veterans of World War II (Amvets) gave citations to the builders and lenders in order to encourage more building to meet the needs of minority groups.

The citations were awarded to Walter Bollenbacher, president, and Louis L. Kelton, vice president and secretary of Allied Contractors, Inc., the builders, and George M. Eason, president of Standard Federal Savings and Loan Association, the lending institution, all of Los Angeles. Hampton Hutton, prominent Los Angeles attorney, California state commander of the Amvets, and Efrén Diaz, leader of the Latin-American Amvets post in Santa Monica, made the awards. The citations read: "In recognition of distinguished and cooperative service rendered the community and veterans of World War II."

Rancho Burke offered 12 designs a little over 800 square feet in floor area, each with attached garage. The homes sold at an average price of \$7,450, with average monthly payments of \$46.95 at straight G.I. 4 per cent financing, with no down payment and only about \$125 for impounds and escrow charges.



JOE LOPEZ and wife, Aurora, make down payment on Rancho Burke home by opening piggy bank on Marian Baylous' desk.

1818
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HOPE'S

*The Name
Guarantee*

FOR
PREFABRICATED
HOMES



The versatility of HOPE'S Residence Windows is well illustrated by the unusual success of window layout in this prefabricated home.

In addition to the attractive exterior, the interior benefits from the greater light area in proportion to total window opening, the convenience of ventilating with casements and enduring quality of construction.

*Admired Homes In
West Newton, Pa.*

HOPE'S WINDOWS, INC., Jamestown, N. Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS



The CAPITOL Taper Seal GARAGE DOOR

is a Profitable Door for you to recommend and install. Customers like these self-selling, Taper Seal features: beauty — feather-touch operation — balanced action — complete weather protection — long, trouble-free life — reasonable cost. For you — faster sales — greater profits. Sizes: 8'0" x 4'6"; 8'0" x 7'0"; 8'0" x 7'6"; 8'0" x 8'0"; 9'0" x 7'0"; 9'0" x 8'0"; 10'0" x 7'0"; 10'0" x 8'0"; 10'0" x 9'0"; 10'0" x 10'0".

Now! THE NEW CAPITOL STREAMLINE FLUSH-PANEL

For Faster Sales

For Greater Profits



— stronger, longer lasting — combines beauty and economy. Panels are electrically bonded (not nailed) to each side of the frame — insures rigidity — prevents warping and distortion. Sizes: 8'0" x 7'0"; 8'0" x 7'6"; 8'0" x 8'0"; 9'0" x 7'0". Thickness — 1 3/4".

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JUNE 1950

STA-TITE STEEL BRACES

for bridging wood joists
in floors and ceilings



- Save Time
- Save Work
- Save Nails
- Save Space
- Save "Spoils"
- Save "Fines"

Bridging wood joists is simple and easy with Sta-Tite Braces. Flange ends firmly wedged and permanently locked in position by a hammer blow. One small 4-D nail through each end provides firmness. Advantages in building arched or flat roofed stores, gymnasiums, garages, theatres, etc., are so great that their use adds tremendously to your profits.

WRITE TODAY FOR COMPLETE INFORMATION

Inquiries from jobbers invited

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SAVE ON 'PIER HOLE' 'UNDER- REAMING



with this Remarkable, New
B. & R. UNDER-REAMER

(1) UNDER-REAMS, (2) FLATTENS AND
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SPECIFICATIONS . . . all at same time.
Experienced users under-ream hole in 5
minutes. Surveys in 5 or 6. Tremendous
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**PAYS FOR ITSELF THE FIRST 3 HOUSES
YOU BUILD**

Contractors' claims — not
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creases itself very fast
and in time and concrete
saved.

\$97.50

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MONEY-BACK GUARANTEE

Use B. & R. Under-Reamer 30 days. If not com-
pletely satisfied, money cheerfully refunded.
1-year guarantee.

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Ship _____ Under-Reamer(s) of once
☐ Please Rush Me Descriptive Literature on
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Address _____
City and State _____

Haco Prefab Method Used in Houston Model Home

A low-cost home employing the Haco construction technique—a reinforced concrete slab moulded and welded into a steel frame—has recently been completed in Houston, Texas. Built under the supervision of the developer of the method, Harry Cole, structural engineer, it is being used as a model home. The prefabricated units, comprising about 35 per cent of the total structure, are rapidly erected.

Cole said that with conventional finishing materials the house can be



HACO Houston home is open to visitors

built for approximately \$38.00 per square foot, exclusive of lot and foundation. It has 500 square feet.

The Haco house is erected on a floating slab foundation, the base slab being poured monolithically with the foundation grade beams extending into the ground. This combination tends to spread the entire load of the building onto the sand sub-base. The floor construction consists of a reinforced slab on sand fill, waterproofed between the sand sub-base and the concrete.

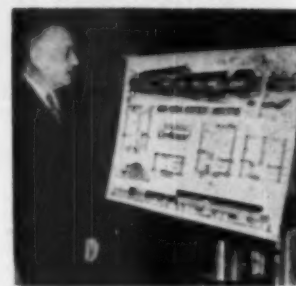
The wall units are framed into the grade beams by means of anchor bolts. Roof units are supported by and welded to the wall units. Wall units are erected in sections 10 feet high by 40 inches wide; each unit is a composite section consisting of a steel frame into which is welded a stone-like veneer slab. The steel frame becomes the skeleton framework of the building and the concrete stone-like slab is the outside wall veneer, weatherproof and having from 5,000 to 6,000 pounds compressive strength per square inch.

Four inches of caulking compound was forced between the steel frames with a pressure gun and the $\frac{3}{4}$ -inch outside joint was also mortar-filled with a pressure gun. Flame-proofed furring strips were attached to the steel frames, thereby making an additional air-circulating space.

Research Program

Plans for a broad housing research program are under consideration at Ohio State University.

Student Gets Top Award In Architectural Contest



REP. HENRY TALLE (Rep., Iowa) examines first prize winner in the major award division of Timber Engineering Co. garden apartment contest. Winning entry was designed by M. E. Freitag, student of architecture at Iowa State College, Ames.

The second major award went to C. E. Stadel and M. J. Dolan, architect and engineer, Chicago; third prize was won by R. T. Morrisett, architect, Springfield, Ill.; and the entry of N. N. Culin, New York City architect, was awarded honorable mention.

Winners in the student division: first prize, E. A. Ingram, Jr., Texas A. and M.; second, A. B. Mitchell, Carnegie Tech; third, Milton Holtzman, Georgia Tech; honorable mention, D. I. Bonsteel, Washington State.



HEAVY-DUTY HALF BAGGER with

Power Loader and Tank

THIS mixer gives the smaller contractor every production advantage found on larger mixers. Output is increased because high shoveling is eliminated. Automatic water measurement, rapid discharge, and Briggs & Stratton air-cooled engine insure perfect performance. Capacity 3½ cu. ft. mixed concrete, plus 10% overload.

Write for prices and specifications
MULLER MACHINERY CO., Inc.
750 Whitman Avenue
Metuchen, New Jersey
Filters, Non-filters, Plaster Mixers,
Concrete Carts, Mortar Boxes



ELM TERRACE APARTMENTS, YORK, PA. • ARCHITECT, JOHN B. HAMME • BUILDER, R. S. NOONAN

Casement operator maintenance cost of all windows since 1937...\$19.50

	<p>Operator 4703W is a precision built instrument with the exclusive internal gear. It operates through screen, on all wooden casements equipped with butt or extension hinges.</p> <p>Operator 4703AF is identical to above, but drilled for metal casements.</p>
<p>Why an internal gear? This exclusive Getty feature provides longer life and greater power than any other method of gearing. Internal gearing permits the entire length of the worm to be engaged at all times with the gear teeth.</p>	

The price of a few 50c cigars has been the yearly maintenance cost of these 13-year-old Getty-operated casements. Such faithful year-after-year, troublefree service has eliminated the building bugaboos of repair, replacement and reproach.

That's why architects, builders, contractors, casement manufacturers, building material dealers, hardware jobbers and dealers specify, use and carry the Getty line. That's why *Getty operators are found on more casement windows than all other operators combined.*

Write for our descriptive brochure D. It contains complete information on our three operators (internal gear, external gear, horizontal drive) and our specialty hardware for every type of wood and metal casement.

H · S ·



& Co., Inc.

3348 NORTH 10th STREET

PHILADELPHIA 40, PA.

Choose

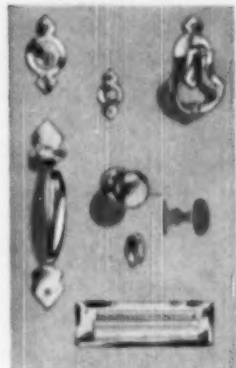


FOR

FRONT DOOR HARDWARE



The charm and individual character of Corbin design relate the door, handle, knocker and push button to the architectural style of the house.



4 "Somerset" design exemplifies the beauty and tradition of Southern Colonial architecture.



4 The Cape Cod or New England Colonial doors call for the substantial beauty of "Plymouth" design in solid cast brass.



4 The Corbin "Concord" design is particularly adaptable to the current American Farm and the popular Ranch Type homes.

Just ask your Jobber
for



P. & F. Corbin

Division
The American Hardware Corporation
New Britain, Connecticut

Developer Caters To Small Builders

California firm offers features with special appeal to builders of 1-5 homes a year

THE McCarthy Co., a family concern which has been building and subdividing in Southern California since 1892, has aimed its latest Los Angeles development, Westchester Plaza, directly at the medium-sized builder.

"We feel," said E. Avery McCarthy, president of the firm, "That the time for the two- to five-structure builder is here again. The large-scale builder is running into trouble on his financing in the 100-300 house development, the one-structure builder is mainly a contract man, not a



GROUP of three typical two-story duplexes in Westchester Plaza development. Outdoor living area, has good sales appeal.

speculative builder. However, to suit today's 'choosy' buyer, the two- to five-structure builder is the ideal man, since he can vary his plans often, do individualized decorating for the buyer, and operate on a limited amount of his own capital."

The McCarthy project caters to this type of builder in several ways.

It is an all-residential-income project, designed for duplexes, triplexes and 4-unit buildings. The builder can take his pick of buildings running as low as 1600 square feet, containing two units; or he can go as high as 6000

(Continued on page 254)



ARTIST'S drawing of one-story units in project

THERE'S NO STOPPING THAT TREND



HERE'S WHY...

Sales Helps Galore! 330 outstanding sales builders available to Barrett dealers absolutely free or at substantially less than actual cost. Full color booklets, direct mail campaigns, window displays, selling manuals, shingle boards... these are plus values you get when you tie in with Barrett.

Good Line of Prepared Roofing! Every type of product — in sizes, weights and colors — to meet your customers' every roofing requirement.

Dependable Products! For example: Barrett's felts — the backbone of prepared roofing — give longer life because they pass rigid tests for tensile strength, pliability, ash content, weight, thickness and saturating capacity.

Superior Packaging! Neat, clean, attractive packaging... always clearly labeled... thoroughly protects the product.

4-color National Advertising! The only Prepared Roofing

advertising in full-color, full-page size in The Saturday Evening Post... supported by additional space in other leading magazines.

Barrett looks after its own! Barrett salesmen actively help their accounts build new business.

Follow the trend to Barrett! It's plain good business to sell Barrett Prepared Roofing. Why not join up with Barrett right now?

THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

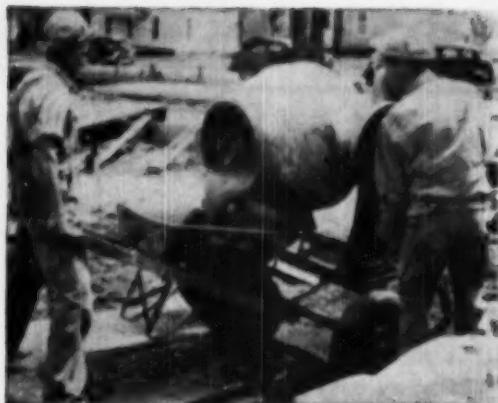
40 Beater Street, New York 6, N. Y.

285 W. Wacker Drive
Chicago 6, Ill.

1327 Erie Street
Birmingham 6, Alabama

24th St. & Gray's Ferry Ave.
Philadelphia 45, Pa.

*Reg. U. S. Pat. Off.



SENSATIONAL!
Only \$ **375⁰⁰** FOB
WATERLOO



**WONDER TILTER AGG
RATED 3½S END
DISCHARGE MIXER**

TOP QUALITY CONSTRUCTION
☒ **CHECK THESE FEATURES**
THEY SPEAK FOR THEMSELVES



- ★ Figure "8" Mixing Action
- ★ Semi-Steel Cast Drum with Leak-proof Alloy Steel Cone
- ★ Timken Equipped Drum and Drive Shaft
- ★ One Piece Welded Steel Frame
- ★ V Belt Drive
- ★ Cantilever Spring Mounted

CONCRETE MIXERS AGG 1100 DUAL PUMP POWER BARS MIXER DRUM



CONSTRUCTION MACHINERY COMPANIES
WATERLOO, IOWA

Developer Caters to Small Builders

(Continued from page 252)

square feet for a 4-unit building. He has an option of one- or two-story structures, enabling him to put more building on less land area, thus cutting down his basic land cost in comparison to sales price.

Under a standard contract which McCarthy offers all builders in its project, if the builder puts up one model building to be used for display purposes the company will furnish it, landscape it, and use its sales organization to sell reproductions in the development. Since the contract calls for a fixed sales commission of \$400, regardless of the size of the building, all builders' jobs are of equal interest to the salesman financially.

The contract clearly defines the entire relationship between the builder, broker, lender, and buyer; as a result, the buyer has only certain fixed prices to pay, with no hidden charges coming up in the future. The builder quotes his net price for the construction of the building and the McCarthy company, as broker, sees that proper additions are made to this net price to cover complete servicing of the loan application, title charges, commission, etc. The builder, in turn, is relieved of outside details and can concentrate on the construction job.

In order to get the project off to an active start, the McCarthy company itself built twenty two-story duplexes. These were of a luxury type designed to "set the tone" in the tract, and not meant to offer serious competition to the builders.

The tract was planned to obviate builders' ordinary problems in developing land. Some of its features are the pre-running of the laterals from water and gas mains to the property line to avoid cutting into the street at a later date; the provision of alley access to cut down the cost of

(Continued on page 280)

OPEN and CLOSE
GARAGE DOORS
Automatically



FROM WITHIN THE CAR

Works like magic . . . by simply pressing button on car dash, you can operate garage doors — start and stop them at will; turn garage lights on or off; flood driveway; and lock doors securely.

This CRANE "300" Door Operator with Magic Circle Remote Control is specially designed for the 1-car garage (also available in 2-car garage model); and is so low-priced as to make it available to every home owner.

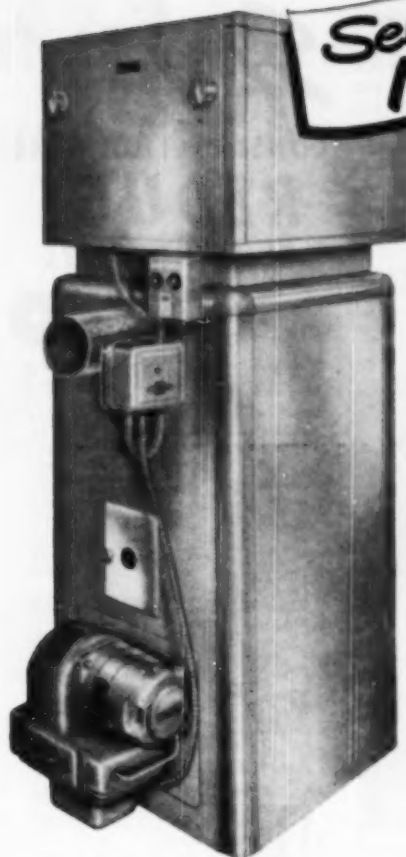
Operates faultlessly, is easy to install, plugs into any light socket, no wiring necessary.

Write TODAY for details — ask for Bulletin AB650

H. W. CRANE CO. 1443 W. LAKE STREET
CHICAGO 7, ILLINOIS

Specializing in industrial and residential door operators for 35 years

**Sensationally
NEW!**



DELCO-HEAT CONDITIONAIR For Reverse-Flow Perimeter Heating

Revolutionary new way to make low cost installations in homes without basements!

The new Delco-Heat OPC-75HR Conditionair offers builders of small homes a way to provide *better heat at lower cost*—with warm air—radiant “perimeter” heating!

Complicated, costly ductwork is replaced by light gauge ducts installed in concrete floor slabs. One or two “loops” encompass the perimeter of the home—fed by radial ducts from the plenum beneath the Conditionair. Grilles are provided beneath windows and other locations of high heat loss. The result is a heating system that gives *steady radiant heat* around the entire perimeter of the house, plus *forced warm air* heat that eliminates “cold spots” in the house, and responds quickly to thermostatic controls.

The OPC-75HR provides for cold-air return through either side of the blower-filter unit on top of the Conditionair. The large capacity centrifugal fan forces air down over a heat transfer unit that has been brilliantly engineered to deliver maximum heat from the combustion gases. The entire unit is beautifully finished, and so compactly designed it can be installed in even a small closet!

Delco Heat Conditionair, Model OPC-75HR

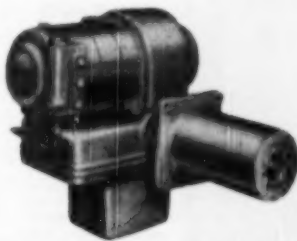
Capacity Per Hr. Output		Firing Rate G. P. H.	Heating Surface Sq. Ft.	Heaviest Grade of Fuel Oil
Plenum				
75,000		$\frac{1}{2}$	22.34	No. 2
Blower				Filter
R. P. M.	C. F. M. Max.	Motor		Size, Inches
		H. P.	Watts**	
400-700	800	$\frac{1}{2}$	385	20-25-1

*Use plenum rating when unit and ducts are installed within space heated. Allow for additional heat loss if ducts installed in unheated area.

**Maximum watts allowable on motor.

Your new homes will sell better if they're equipped with Delco-Heat!

Delco-Heat manufactures a complete line of automatic home heating products—for all types of fuels, all systems of heating and all sizes of homes. And our engineering and sales departments will be glad to serve you in any way possible. Write to Delco Appliance Division, Dept. AD-6, General Motors Corporation, Rochester 1, New York.



Heart of the OPC-75HR Conditionair is this tested Delco-Heat pressure atomizing oil burner. It's economical and efficient. And it operates so quietly a coin may be balanced on edge on the burner housing while the motor is running!

GENERAL MOTORS
DELCO-HEAT

HERE'S AN "EXTRA"
that Adds Sales Appeal to
Your Homes at Low Cost!

Specify and Install

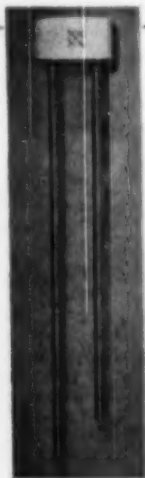
RITTENHOUSE Door Chimes

THE CHIMES THE PUBLIC KNOWS BEST

Start selling at the front door! Press the button and let your prospects hear the clear, melodious, golden tones of a Rittenhouse Door Chime. Step inside and promptly show its beautiful styling. Point out its quality construction that assures long life and trouble-free operation. Your prospects will be quick to realize that your homes are quality built with quality fixtures for added comfort and gracious living.

Truly, there is no fixture you can buy at such low cost that adds as much glamor and sales appeal as a Rittenhouse Door Chime.

So take advantage of an "extra" that has real sales appeal. Specify and install Rittenhouse Door Chimes—the high quality line the public knows best. You can't buy more value for your money!



THE BUILDER
Model 376

An attractive, low-cost chime with excellent tone. Easy to install and dependable in operation. Sounds two notes for the front door, one for the rear, ivory and gold housing. Brushed brass tubes. Operates on standard 10-volt bell transformer. Size 7 1/2" x 4 1/2". List price, \$7.95. Other models from \$2.95 to \$94.50.

Get the facts about the full line of Rittenhouse Door Chimes. Call your electrical wholesaler, or write to us for complete information.

THE RITTENHOUSE CO., INC.
9 Owen St. Honeoye Falls, N. Y.

British Firm Plans Mass Production of Brick Houses Erection Time, 6-8 Weeks

PLANs for mass-producing a two-story permanent brick house with prefabricated roof and interior, which can be erected in two, four, six or eight row housing units in from six to eight weeks, have been made by the Blackburn Aircraft Co., one of the five British airplane manufacturers who have been carrying out the large Government order for prefabricated aluminum bungalows. The costs will be comparable to that of a traditional brick house of the same size, the company said.



EXTERIOR and living room views of Blackburn home, experimental four-dwelling row unit recently erected in Scotland

To erect the house, all a local builder has to do is to lay down foundations and erect a shell to ground floor level, consisting of normal 12-inch hollow brick walls. Party walls between houses are 9 inch brickwork. The roof and all flooring, ceilings and internal partitions and components are prefabricated to jigs in the factory and assembled on the site. The construction of these sections can be completed within three weeks from the completion of the exterior walls. Since the aluminum roof, which goes on in sections, can be erected as soon as the outside walls are ready, time can be saved in bad weather.

Six standard types of Blackburn House are available. The over-all area of the four room duplex house is 921.75 square feet; for the five room duplex it is 1045.5 square feet.

SAVE CONSTRUCTION TIME REDUCE BUILDING COSTS WITH **VENTO** STEEL WINDOWS

Save building time and reduce your material costs with Vento Steel Windows. Home owners prefer them.

- 1** Basement Windows that open at top or bottom, partially or fully—double weathering covers—provisions for storm sash and screen.
- 2** Utility Windows for use in farm or small industrial buildings, garages, etc.
- 3** Barn Windows that control ventilation—prevent drafts.
- 4** Steel Casement Windows with corners mitered, electrically welded and ground smooth—of heavier construction than most steel windows of comparable price. Provisions for storm sash and screen. Has gracefully designed rose hardware with standard cam action locking handle.
- 5** Matching Picture Windows and Specialty Fabricated Liners to complete your house.

SEND COUPON
for full information on how to reduce costs and build better houses with VENTO Steel Windows!



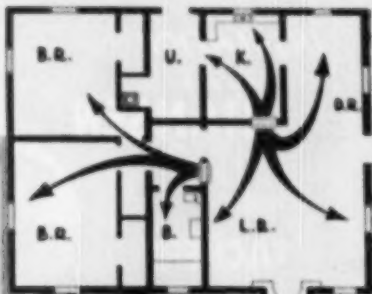
VENTO STEEL PRODUCTS CO., INC.
247 Colorado Ave., Buffalo 15, N. Y.
Send me the data on Vento Steel Products.

Name _____
Address _____
My building supply dealer is _____

VENTO STEEL PRODUCTS
CO., INC.
247 COLORADO AVE., BUFFALO 15, N. Y.

Tuck this heater away in the wall!

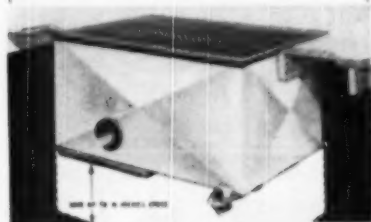
The cost-saving **COLEMAN** automatic gas wall heater



Designed for today's building—this plan shows how the Coleman Gas Wall Heater can be used in modern new homes.

Automatic Low-cost Heat with the Coleman Floor Furnace

Fits in floor, takes no living space. Heats 4 to 5 rooms, giving complete change of warm air 3 to 5 times an hour. No basement, no excavation, no air ducts needed! The Flat Register lies flush with the floor and the Dual Wall Model fits beneath wall or partition to heat adjoining rooms at same time. Coleman's Shallow-flow illustrated is the shallow furnace with big-furnace heat production. Models from 25,000 to 70,000 BTU per hour. For Oil, Gas, LP-gas.



Comfort costs so little with a

Coleman

World's largest manufacturer of home heating equipment

JUNE 1950

Takes no living space! Here's automatic low-cost heat that's easy to install in low-cost homes. It's the modern, handsomely styled heater that fits in the wall between standard studs and extends out only 3 3/8". Needs no excavation, no special construction and no basement. And no ripping up floors—ideal for slab-floor homes. Just the thing to heat second-floor areas when space must be conserved. Safe for children because the casing they can touch heats to only 53° above room temperature.

Single Wall and Dual Wall Models

Single Wall Model has a 25,000 BTU per hour input rating and circulates 8000 cubic feet of warmed air every hour—enough to heat 2 average rooms. The Dual Wall Model fits in wall between 2 rooms, heating adjoining rooms at same time. Separate controls to regulate temperature. BTU per hour input rating, 45,000. Send coupon for more information showing how the Gas Wall Heater helps keep building costs down; helps sell houses faster.

THE COLEMAN COMPANY, INC. • WICHITA 1, KANSAS

The Coleman Company, Inc., Dept. AB-457, Wichita 1, Kansas

Please send more information on

☐ Coleman Floor Furnaces ☐ Gas ☐ Oil ☐ LP-gas
☐ Coleman Gas Wall Heaters

Name _____

Street _____

City _____ Zone _____ State _____

ONE HAND FOR MATERIALS—
ONE HAND FOR TACKER—

FOR INSULATION JOBS...
HANSEN
ONE-HAND
TACKERS



INSULATION—Celling Tile—Metal Lath—Wall Paper—can be installed faster, easier, better—with the HANSEN one-hand Tacker.

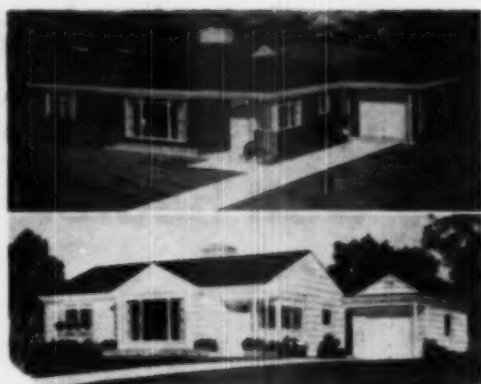
Hold materials in place with one hand. Tack with the other—feel as your grip. Tacker holds scores of staples. Re-loaded in seconds.

35 models to choose from and 85 different sizes of staples to use in them. Save time, shape, materials—with HANSEN!

REQUEST BOOKLET

HANSEN A. L. HANSEN MFG. CO.

5059 Ravenswood Ave. CHICAGO 40, ILL.



A. A. Jefferson, top, and Jackson of Certigrade quartet

Red Cedar Shingle Bureau Promotes "Certigrade" Homes

Four attractive two-bedroom homes, all designed around one basic floor plan, will be given outstanding national prominence during 1950 under an advertising and promotion program sponsored by the Red Cedar Shingle Bureau.

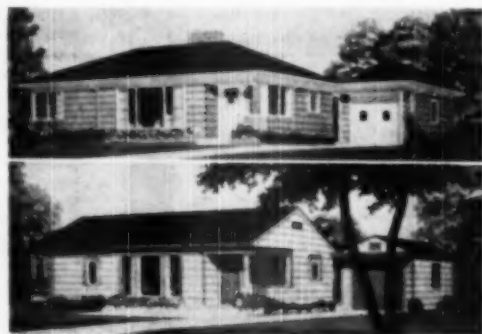
Known as the Certigrade Quartet of Homes, the four model houses have been designed by National Plan Service, Inc. of Chicago and blueprint plans and material lists will be distributed through retail lumber dealers.

The Certigrade Quartet program is patterned after the Bureau's successful advertising campaign of 1949, which featured the Certigrade National Home. Highlight of the advertising phase of the campaign will be a series of four full-page color advertisements in *The Saturday Evening Post*, the first of which appeared in the April 22nd issue. Additional advertisements featuring the Certigrade Quartet are scheduled for other publications.

The four model homes have double-coursed cedar shake walls and cedar shingle roofs. They all have the same basic floor plan, including a spacious living room with fireplace and dining space, two bedrooms, and an all-air one room. A semi-detached single garage is another feature of the homes.

The four homes are named after early American statesmen, and are officially designated at The Certigrade Jefferson.

(Continued on page 269)



CERTIGRADE Washington, top, and Hamilton of quartet

You get **MORE HEAT** from **LESS OIL**
with Automatic

Famous
since
1903



JOHNSON Oil BURNERS

You'll like the fuel-savings that a Johnson Burner will give you. And you'll like its quiet, carefree dependability. If you are confronted with a heating problem... large or small... let your Heating Engineer show you what a difference an automatic Johnson Burner can make in your fuel and service bills.

There's a Johnson Burner for every heating need... all precision-built to give years of satisfaction... all engineered to maximum efficiency... all backed by a 47 year record of dependability. See the Johnson Burner dealer near you.

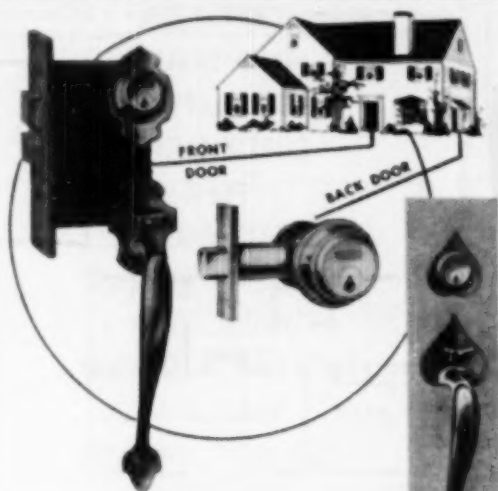
Johnson
Oil
Burners

S. T. JOHNSON CO.

940 Arlington Ave.
Oakland 8, California

401 No. Broad Street
Philadelphia 8, Pa.

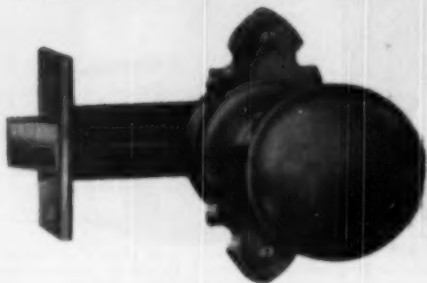
Hardware that stands up to "hard wear."



XP22 FRONT AND BACK DOOR SET

Consists of XP74281 Handle Set for front door . . . 170KA Tubular Deadlock for back door. Latter has chromium-plated inside trim to match modern kitchen fixtures. Front and back door keyed alike.

No greater security . . .
no greater convenience!



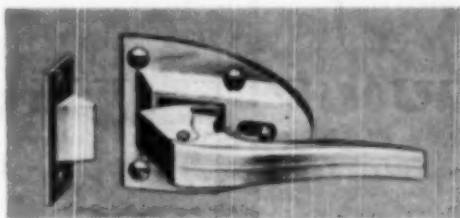
CR231 KNOB SET

Offered in following styles—latch set, no locking on either side; bathroom set with push-button on rose, emergency key, chrome inside; bedroom set, push-button on rose, provision for emergency key. Automatic throw-off.

X H DESIGN Same combinations as XP22 Set.



First
choice
for
screen
doors!



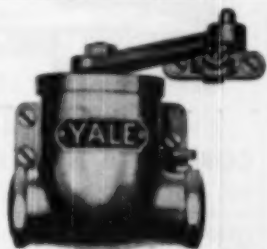
1011 PUSH-PULL SCREEN DOOR CATCH

Heavy-duty catch for screen and combination doors. Works easy . . . no knob to turn. Sure-holding, positive lock. Quick to install. Rustless metal, bright brass finish.



506 AIRLINER SCREEN DOOR CLOSER

Pneumatic-type. Adjustable spring is completely concealed against dirt and rust. Modern appearance, attractive finish. Easy to install on doors of either hand, inside or outside . . . requires only 2 in. between doors.



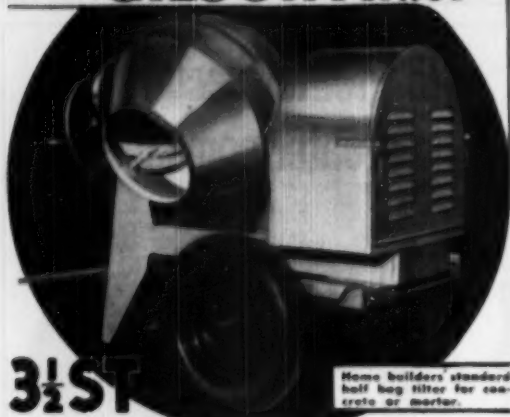
570 SCREEN DOOR CLOSER

Liquid-type. Quick, quiet, complete closing. Easy to install and adjust . . . no reversing . . . screw holes spotted by full-size marker.



THE YALE & TOWNE MFG. CO.
Stamford, Conn., U. S. A.

You'll make a *greater profit* with a **GILSON Mixer**



3 1/2 ST

Home builders standard
half bag filler for con-
crete or mortar.

THERE are two good reasons why Gilson mixers make more money for you. Reason No. 1 is low initial cost — the best price on the market. Reason No. 2 is quality construction — features like semi-steel drum base, chain drive, Timken roller bearings that add up to

more years of productive service. No wonder thousands are in use today, everywhere — and there are over 39 models from which to choose. Write today for an informative, well illustrated bulletin and the name of your Gilson distributor.

GILSON BROTHERS CO. Frederick, Wisconsin
Manufacturers of Contractors Equipment Since 1911

BUILDERS!



CONTRACTORS!

COMPLETE NEW HOME PLANS

Have the advantage of perspective drawings and floor plans to show future homebuilders. Give your clients the opportunity to choose from these latest design plan books. Plans utilize builders newest cost cutting and latest construction methods. Complete working blueprints of 200 FHA approved homes are available.

Wide variety of contemporary and traditional designs styled for comfort, beauty and convenience. Includes starter homes, four- to ten-room home sizes—in ranch styles, modern design, Cape Cod and duplex plans.

Order 2 books for only \$2.00 (one book for frame and one for block masonry construction). Then when you order your first set of working blueprints—4 blueprints included in set—\$25.00 for frame construction, \$35.00 for block construction—your original \$2.00 investment will be credited to your order. Order books today—let these amazing plan books sell home contracts for you.

HOME BUILDING PLAN SERVICE
2454-Z NE Sandy Boulevard
PORTLAND 12, OREGON

Certigrade Homes . . .

(Continued from page 258)

son, The Certigrade Jackson, The Certigrade Washington and The Certigrade Hamilton.

National Plan Service has developed three optional floor plans for the homes. Plan No. 1 includes a full basement, Plan No. 2 has a utility room without basement and is de-



PLAN No. 1 has full basement, and No. 2 a utility room

signed for northern construction, while Plan No. 3 also is basementless with utility room and is laid out for southern construction.

Lumber dealers can obtain free descriptive literature on the Certigrade Quartet, as well as newspaper mats, from the Red Cedar Shingle Bureau, 5510 White Bldg., Seattle 1, Wash.

Middle Income Families To Buy 30% of Homes

"Three out of every 10 families in the \$3,000 to \$5,000 income bracket are expected to be in the housing market in the 1950-53 period, according to government data," FHA Commissioner Franklin D. Richards recently told a meeting of mortgage bankers.

**CUPRINOL
PROTECTS WOOD
AGAINST
WARPING
SWELLING
SHRINKING
ROT
TERMITES
GRAIN RAISING
CHECKING
DISCOLORATION
MILDEW
PAINT PEELING**
(Due to Moisture)

Sills
Joists
Beams
Sleepers
Studs
Girders

Sub Flooring
Sheathing
Siding
Windows
Window Frames
Doors

Door Frames
Furnices
Fences
Gates
Arbors
Panelling

You win greater customer satisfaction when your building plans call for Cuprinol treatment of the wood. Cuprinol, easily applied on-the-job by brush, spray or dip, fits readily into production schedules. And a part of its moderate cost (approx. 1c per surface sq. ft.) may be recovered because Cuprinol treatment often permits reduced costs for other materials.

Plan always to include Cuprinol treatment of the wood in your estimates. The construction that includes Cuprinol enhances the reputation of the builder.

Easily applied by brush, spray or dip • an excellent base for glazing • a priming coat under paint • no gloves or protective clothing needed • treats approx. 400 sq. ft. per gal. • treated wood harmless to seeds, plants, poultry and animals • will not leach out • dries in 3 to 4 hours.

CUPRINOL
KEEPS GOOD WOOD GOOD

See Sweet's File for Builders 28/4 or write for information on types of Cuprinol for specific uses.

CUPRINOL Division, Darworth Incorporated
56 Maple Street
Simsbury, Conn.



**Got the
advantages of
CHROMEDGE with B&T's
durable, beautiful rubproof
CHROMALITE
FINISH**

Here's top beauty and extra value in nosings for counters, cabinets and tables!

The soft, rich gleam of B & T's famous durable, rubproof, Chromalite Finish is in the metal itself—not just a coating. It's there to stay. It won't discolor clothing or hands. Its "luxury look" is permanent.

**Other "Plus" Features of
CHROMEDGE**

In addition to a bigger choice of shapes for every type of installation, Chromedge Metal Trims give you other advantages. Their *dimensional stability* means that each length of each section is exactly like the others. Joints and corners *match*. Metal thickness is uniform. Face widths are consistent. Lip recesses are accurate. Also, the quality of Chromedge alloys does not fluctuate. Their strength, workability, and *durability* are carefully maintained. You get no substitutes or makeshifts. Every foot of these Chromedge extrusions is made in B & T's own plants!

Your Chromedge distributor has full information on B & T's complete line. Call him today.

The B & T Metals Co.
Columbus 14, Ohio



Cater to these **BACKYARD SPORTSMEN** this Spring and Summer

These low-cost units make
OUTDOOR FIREPLACES
easy to build, fun to use

More home recreation is centering around Outdoor Fireplaces. This popular trend opens markets for you to supply these all-metal "cores" that fit inside any masonry design.

The Majestic Company
300-C Erie St., Huntington, Ind.



Outdoor Cooking
(and eating)
offer great sport
for all the family

AT
A
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TO DEALERS:
Your Copy ***FREE!**

NEW 52-page idea
book of Outdoor
Fireplaces

*More copies avail-
able at nominal
cost for you to sell
at 25c each.

The Book Helps You Sell The Units



Walls of Beauty INSIDE AND OUTSIDE —AT LOW COST!



So beautiful... yet so inex-
pensive! So light in weight...
yet so strong! A smooth, fas-
trous enamel finish in 14 dec-
orator colors, permanently
bonded to sturdy aircraft
aluminum. Ideally suited for
use in homes, institutions...
for in or on business buildings
and theatres.

**FIREPROOF • RUSTPROOF
WATERPROOF**

HASTINGS *aluminite*

**EASY TO CLEAN.
WILL NOT CRACK,
PEEL OR CHIP.**

Permits modernization of old buildings without introducing
structural stress problems. Easy to apply, with a decided
saving in labor hours. Complete information on request.

MAKE FRIENDS—MAKE MONEY WITH ALUMINITE

METAL TILE PRODUCTS, INC.
DEPARTMENT 605, HASTINGS, MICHIGAN

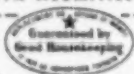
Send me additional information regarding aluminite.

I am ☐ Distributor ☐ Dealer ☐ Architect ☐ Contractor.

NAME _____ PHONE _____

ADDRESS _____ ZONE _____

CITY _____ STATE _____



Use of Plexiglas In Construction

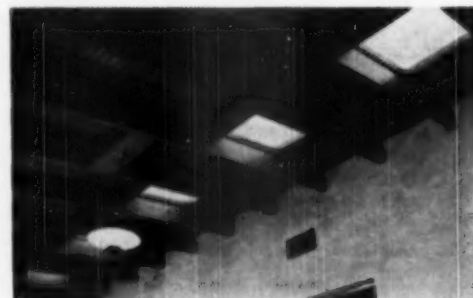
A thermoplastic acrylic resin produced in the form of sheets and rods, Plexiglas, well-known during the war for its use in aircraft enclosures, is currently being found well-adapted for a number of residential and commercial construction uses. The product is manufactured by Rohm and Haas Co., Philadelphia.

The material is produced in sheet sizes up to 120 x 100 inches, in flat and corrugated form with smooth or patterned surfaces. As clear material it has optical-grade transparency. It is also available in a wide range of transparent and translucent colors.

Among the advantageous properties of the plastic are its capacity to be formed to almost any shape when softened with heat (250 to 300 degrees F.), although remaining



DOMED skylights, formed of translucent Plexiglas, installed on enclosed porch of home designed and built by Walter Blocher near Chestertown, Md. The 24x24-inch skylights admit daylight to both porch and living room behind it, which has large picture window.



INTERIOR view of porch installation in home above. Skylights were formed with a stop at base of dome. Flat flange of dome rests between layers of four-ply roof, no wooden coaming being required.

rigid and dimensionally stable at normal service temperatures; and its excellent weatherability. Its surface has good decorative qualities.

Among the most popular construction uses of Plexiglas are those in which the combined properties of strength and light-transmission are required. The material both transmits and, in translucent form, diffuses light very efficiently; it combines this characteristic with a resistance to breakage and a lack of weight that make it easy and safe to install in large sections. Thus, partitions that give privacy without shutting out light may be built without heavy supporting members.

Sheets of corrugated material, which have great trans-

(Continued on page 264)



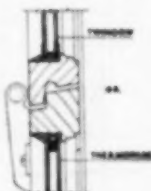
NO CONDENSATION PROBLEMS WITH this AWNING WINDOW!



The sweating pitcher from which you pour your cooling summer drink illustrates what happens when warm, humid, indoor air comes in contact with cold window surfaces in winter. Then, however, the condensation streams down over sills and walls, ruining the decoration.

That's why architects and builders in cold areas prefer wood for windows. And in awning windows, wood means Gate City Awning Windows. When double glazed, they provide over-all protection against condensation. No rust or discoloration problems, either! Their toxic treatment assures a lifetime of trouble-free service.

For complete information, please see Sweet's or write to Gate City Sash & Door Company, Dept. AB-6, Fort Lauderdale, Florida.



Double Glazing
Available at
moderate extra cost



Gate City

Wood Awning Windows

Toxic-treated against rot, fungus, termites

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Now SIMPLIFIED... STANDARDIZED



the BENNETT FIREPLACE

Here's the fireplace your trade has been waiting for. It's *simplified* for prices that mean volume... *standardized* for quick, economical construction. It's the contractor's favorite—all Bennett's new sizes lay up with standard brick—*without cutting!*

It's a complete form, including a scientifically proportioned firebox and throat, downdraft shelf and heating chambers. Other features include:

- Extra large funneling chamber
- Leak-sealing flanges
- Longer sidewall baffles
- Simple, efficient damper—built-in
- Interchangeable, rotary or poker controls
- Large backwall heating chamber
- Better view of fire
- More radiant heat

Sizes are 27", 31", 35", 39", 43" and 49".

Write for complete information on this big-volume, good margin line. The new Bennett Fireplace offers you the best profit opportunity ever. Address your inquiry to us at 650 Barker Street.

By the makers of Flexseam

BENNETT-IRELAND, INC.



The house that's equipped with **LUMITE** screens!

In today's highly competitive and speculative home building market, it's the house with the "extras" that sells. A set of long-lasting, carefree Lumite screens is an easy way to increase buyer appeal and satisfaction. For Lumite woven saran screening is ideal for every exterior use . . . is guaranteed rustproof and stainproof. Never needs protective painting. Can't stain sills or sidewalls. It's a nationally advertised quality screening with wide consumer acceptance that gives years of weatherproof protection of a big saving.

Sold through hardware, lumber, building supply dealers and screen manufacturers.

FACTS FOR ARCHITECTS AND BUILDERS

EFFECTS OF ACIDS, ALKALIES AND SOLVENTS—Essentially none.

NON-INFLAMMABLE—But softens at about 240°F.

TENSILE STRENGTH, ULTIMATE (of filament)—Up to 40,000 lbs. per square inch.

IMPACT STRENGTH—Greater than conventional screening, when adequately framed.

INSTALLATION—Cut with ordinary scissors. Fold cut edges under 1/8". Tack or staple the screening smoothly and evenly every 1 1/2". Because of inherent characteristics, LUMITE will gradually draw itself into a snug, firm fit.

For free samples and information write Dept. B-3

LUMITE

SARAN SCREEN CLOTH

*Registered Trade-mark

LUMITE DIVISION, CHICOPEE MFG. CORP. OF GEORGIA
40 NORTH STREET, NEW YORK 13, N. Y.

JUNE 1950

10 POWER MACHINES IN ONE!

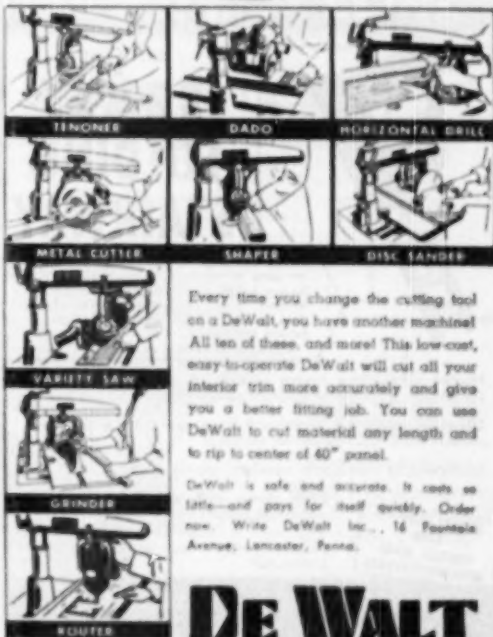
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YOUR HOUSES

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1 1/2 H. P. 110 Volts
Direct Drive.
8" saw cuts 3" thick.
Weight, 115 lbs.



Every time you change the cutting tool on a DeWalt, you have another machine! All ten of these, and more! This low-cost, easy-to-operate DeWalt will cut all your interior trim more accurately and give you a better fitting job. You can use DeWalt to cut material any length and to rip to center of 40" panel.

DeWalt is safe and accurate. It costs so little—and pays for itself quickly. Order now. Write DeWalt Inc., 16 Fountain Avenue, Lancaster, Penna.

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J. C. NICHOLS COMPANY
Developers of the 5,000-Acre Country Club District
residential area at Kansas City, Mo.

**INSISTS THAT
ALL WINDOWS
and FRAMES
BE DIP TREATED WITH**



They say, "All wood windows and frames in our homes are WOODLIFE treated because they take and hold paint and putty better — they remain snug and tight without sticking — and our owners never have to worry about decay or stain."

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your lumber dealer
or write for information.

Protection Products Mfg. Co.
Research Laboratory and Plant KALAMAZOO, MICH.

**CAPITALIZE THE CUBIC FEET
NOW WASTING IN INACCESSIBLE ATTICS
MAKE THE SMALL HOME LARGER . . . On The Inside**



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EZ WAY
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STAIRWAY**

Ample opening for easy entrance.
Heavy hardware fixtures.
Safe, secure locked position.
Sturdy construction — dovetailed joints.
Sealed no-draft construction when closed.
Balanced action opening and closing.
Self-walk strips on all treads.

Makes downstairs rooms larger by eliminating built-in staircases, or permits additional closet space!

Gives accessibility to second floor space for extra bedrooms, dens, playrooms or storage!

Increases convenience, comfort, resale value

**WRITE TODAY
FOR
PRICES AND
SPECIFICATIONS**

Pulls down with a flick of the wrist when needed! Folds up out of the way with a finger-tip touch! Sturdy, stream-lined, modern as the day-after-tomorrow!

MINNESOTA WOOD SPECIALTIES, INC.
BOX 318 • SAINT PAUL PARK • MINNESOTA

Use of Plexiglas . . .

(Continued from page 264)

the true ceiling or used as part of the ceiling beneath a recessed source of illumination. The technique provides glare-free, low brightness-ratio lighting.

A practical type of glazing with the acrylic material developed for industrial buildings is its use to create light-transmitting areas in corrugated metal walls. Here the Plexiglas, corrugated to match the metal panels, is simply lapped in with and bolted to them.

Installation Precautions

The acrylic plastic can be sawed, drilled, threaded, machined, routed or swaged in the same manner as wood and soft metals such as brass and copper. Tools used to work the material should have a scraping rather than a cutting action, and preferably should have no rake. Slow cutting speeds and constant feeds and the use of a water or oil



CORRUGATED white translucent Plexiglas is mounted in ceiling to provide soft lighting without glare. Kitchen is in model home of 1956 Detroit Builders Show designed by Architect Lyle Ziser. Lightweight acrylic sheets rest on simple frame and can be moved to provide access to lighting source. Luminous area is 4 feet, 3 inches by 8 feet, 3 inches; rails are 10 inches above Plexiglas sheets.

coolant, although the latter are not always essential, will keep friction heat below the point where the acrylic plastic begins to soften and become gummy.

Two inherent characteristics of the material govern its successful installation. Excessive local stresses may cause surface fissures called "crazing" to develop, not as serious but similar to the spitting of wood or cracking of metal under like circumstances. Also, the acrylic's coefficient of expansion is significantly greater than that of metals, so provision should be made for its contraction or expansion during changes of temperature, in relation to the same characteristic of any metal frame or channel into which it is fitted. Simple channel or clamp mountings or oversize bolt holes, when bolting is necessary, are obvious general rules to follow.

New Booklet on Schoolroom Ventilation

A new booklet "37 Points of Engineering and Functional Superiority" which describes the advantages of the Herman Nelson system of classroom ventilation has just been released.

This fact-filled brochure graphically portrays the many superior mechanical features of this system of heating and ventilating school classrooms with a series of line-art illustrations.

Free of charge, this literature is available on request by writing the Sales Promotion Department, Herman Nelson Division, American Air Filter Company, Inc., Moline, Ill.

AMERICAN BUILDER

The PIONEER of the PREFABRICATED Chimney



Long before prefabricated chimneys came on the market, we pioneered "VITROLINER" for the protection of old brick chimneys—and also "VITROLINER SPECIAL FLUES" for the Army and Navy. Today Vitroliner is still first, producing a high quality, light weight, packaged chimney—individually designed and completely prefabricated to fit the particular roof pitch of the house—a tailor-made roof flashing and flue housing—no cutting or fitting is necessary.

VITROLINER functions as a complete chimney for ALL home heating equipment. Used nationally—listed by Underwriters' Laboratories for all fuels. Saves approximately one half the cost of masonry construction. F.H.A. accepted.

Time tested, proven practical—easily and quickly installed—VITROLINER offers the modern home builder these money saving advantages—

Low Initial Cost	Installed in 2 Hours	Improves Heating Efficiency
Saves Floor Space	Weights 10-15 Lbs. Per Ft.	Provides Attic Ventilation
Finest Quality Materials	Shipped in 2 Cartons	Mtd. in 6", 7", 8" Diameters

For further information write today to

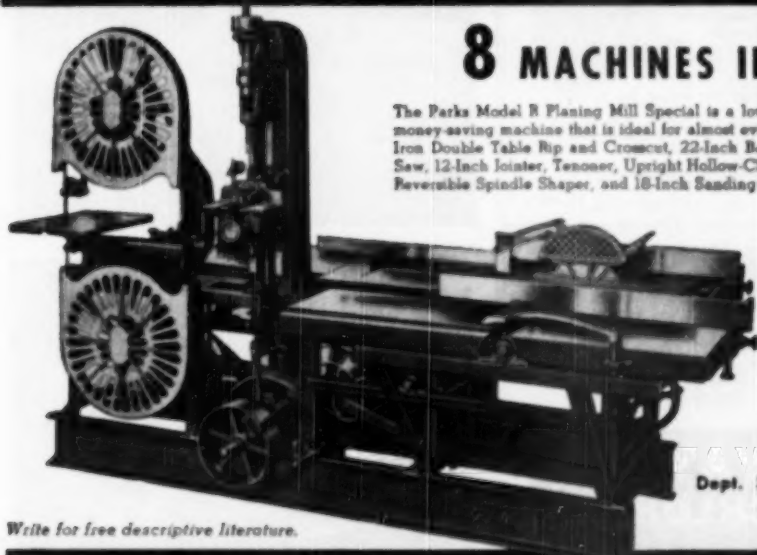
CONDENSATION ENGINEERING CORPORATION
122 S. MICHIGAN AVENUE CHICAGO 3, ILL.



The PARKS PLANING MILL SPECIAL

8 MACHINES IN ONE

The Parks Model R Planing Mill Special is a low priced, "multi-purpose, money-saving machine that is ideal for almost every shop. It offers a Cast Iron Double Table Rip and Crosscut, 22-Inch Band Saw, Swing Cut-Off Saw, 12-Inch Jointer, Tenoner, Upright Hollow-Chisel Mortiser and Borer, Reversible Spindle Shaper, and 18-Inch Sanding Disc.



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Woodworking
Machine Company

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Cincinnati 23, Ohio

Write for free descriptive literature.

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HERE ARE THE FACTS

About the Use of Calcium Chloride in Concrete



“The Effects of Calcium Chloride on Portland Cement” is a 40-page semi-technical book that tells you the facts about the use of Calcium Chloride in concrete. It describes in detail the carefully controlled tests that have been conducted by

recognized authorities in the field and in the laboratory... and the results obtained.

Valuable Information For Contractors, Architects, Engineers, Plant Operators

Everybody who works with concrete—directly or indirectly—will be interested in this book. It gives factual answers to such questions as...

- What happens when Calcium Chloride is added to air entrained cement?... to high early cement?... to low heat cement?... to colored cement?
- What are the effects of Calcium Chloride on slump?... on flow?... on workability?... on density?... on water-cement ratio?
- What are the effects on setting time?... on early strength?... on ultimate strength?
- What are the effects on volume change and on surface wear?
- How much will Calcium Chloride reduce the curing period?
- What will Calcium Chloride do for cool and cold weather concrete?

These are just a few of the questions answered in “The Effects of Calcium Chloride on Portland Cement.” In addition, there are graphs, tables, charts and much material that is now available for the first time in this book.

FREE COPIES AVAILABLE ON REQUEST

“The Effects of Calcium Chloride on Portland Cement” is being made available without any cost or obligation by the Solvay organization. For your free copy, simply write on your business letterhead to Dept. 34-6, Solvay Sales Division, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6, N. Y. Editions are limited, so rush your request now.

SOLVAY
CALCIUM CHLORIDE
For Better Concrete

Maximum Space Utilized In Four-Level House

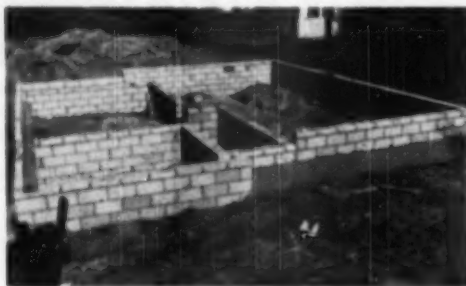


PAIR of low windows in front elevation are only exterior indications of unique interior floor design of this four-level house

EVERY builder is in search of an idea that will give his buyer more house for less money. Architect Walt B. DeGree of Detroit has designed and patented a new home that is one solution to this basic builders' quest since it provides 1346 square feet of well-built living area in a house that sells for less than \$10,000 (without lot)! Architect DeGree has been giving thought to this problem of the builder for many years, for he made an earlier contribution to the building industry in the form of a three-level house of six rooms in 1941.

DeGree's latest innovation, a development of his original idea, is a seven-room, four-level house constructed to

(Continued on page 250)



CONSTRUCTION of Four-Level house in conventional platform type. Note balloon framing of interior partition

Isn't this what YOU want in a door?

DIMENSIONAL STABILITY is assured by the solid hardwood lumber core of this Weldwood Flush Veneer Door. The strong, staved construction makes the door highly resistant to warping, swelling or shrinking.

DURABILITY—The entire door... core pieces, cross-bands and face veneers... is bonded into a solid, durable, waterproof block by the use of waterproof thermal-setting glues. It is perfect for either interior or exterior use.

BEAUTY—You can choose from a wide variety of beautiful face veneers—birch, walnut, prima vera and other imported and domestic woods.



EASE OF INSTALLATION—Weldwood Flush Veneer Doors are accurately squared and factory pre-fit. Because of the solid core, they can be hung from either side, hardware goes in quickly, and light and louvre openings are easily cut on the job.

SOUND ABSORPTION—This Weldwood solid core door gives a high degree of sound reduction—an important advantage in many installations.

• You will also want full details on the Weldwood Standard Mineral Core Door and the Weldwood Fire Door, the only wood-faced fire door approved by the Fire Underwriters for Class B openings. Write for full information.

WELDWOOD FLUSH DOORS

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Please send details on the following doors:

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by established manufacturer of finest quality entry and interior bore-in door locks in low price range. Line has immediate recognition and acceptance. Want Commission Representative with building material or hardware experience. Desirable to have contacts with wholesale jobber and contract dealer trade. Several desirable territories available. State full particulars first letter. Confidential. Write to WESTWOOD MANUFACTURING CO., 1420 So. Evergreen Ave., Los Angeles 23, California See advertisement on page 193.

YOU NEED

AN ADDITIONAL ITEM TO ROUND OUT YOUR SALES PROGRAM AND INCREASE VOLUME

IF YOU ARE NOW OPERATING NATIONALLY, WE HAVE A TAILOR-MADE PLAN

We are a nationally known manufacturer of extruded aluminum windows with recently expanded plant facilities. We have just designed and perfected a new all aluminum storm and screen window and are interested in manufacturing this storm window for the exclusive use of a reputable firm with a record of successful operation. The product would be manufactured solely for you and branded with your trade name. The unit is tested, perfected, ready for sale NOW. Interested firms are urged to write in confidence at once, Box 650, American Builder, 79 W. Monroe St., Chicago 3, Ill.



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FIREPLACES

Lends unsurpassed beauty and charm to homes—old and new. The modern fireplace that fulfills all modern day requirements—used with gas or electricity.

Large variety of attractive models in brick, stone, wood, etc., available.

Furnished complete—ready to be installed in hour's time of handy man—shipped anywhere.

DEALERS, BUILDERS and HOMEOWNERS write for catalog and full information.

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*Need a
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PACKAGED CHIMNEY

Meets FHA requirements

BUILDERS



• SAVE MONEY

Costs up to 90% less than brick.

• SAVE SPACE

Hangs from ceiling or below joists. Use space underneath

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Installs in 3 man hours or less.

• AVOID JOB DELAY

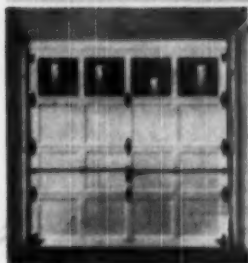
Immediate delivery to job of complete chimney.



VAN-PACKER CORP.

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- Easy to Operate
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WAGNER AUTOMATIC ELECTRIC DOORMAN—Furnished to operate any type of overhead door by radio, magnetic or key control.

WAGNER ALSO MAKES—Saw horse trestles—Scaffold brackets—Folding ladder brackets—Hangers, tracks and hardware specialties.

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Send me the complete Tamblin System on free 10 days trial. If I like it, I will pay \$8.75 when 10 days are up and \$7.50 per month until \$38.75 is paid. Otherwise I will return it.

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Address _____

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Maximum Space Utilized...

(Continued from page 268)

obtain maximum utilization of a residential building without impinging upon its practical or ideal functions.

The plan consists of a laundry, dining room, and kitchen on the first level, a living room on the second or ground level, two bedrooms and bath on the third level, one bed-



LOWER & SECOND LEVEL



THIRD & UPPER LEVEL

room on the fourth level, and a total of six closets and wardrobes. In spite of this unique arrangement only four steps separate the first and second and third and fourth levels, while eight risers are used in the stairway between the second and third levels—a total of 16 risers—an amount that compares favorably with the number in the typical 1½-story house. All ceilings are eight feet high.

After having designed this four-level home, DeGree

(Continued on page 272)

AMERICAN BUILDER

New BEVIL & DEVIL ALL PURPOSE SET for

NOW AVAILABLE—the tools you need for insulation board jobs. Sharp, strong, specially ground blades cut through toughest insulation boards

leaving clean, smooth edges. Three tools—five blades—attachments.

All for . . .

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Each Bevil-Devil Blade, of selected steel, ground to cut insulation board. Package of 100 for \$4.00, postage paid.

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PRECISION folding stairway

- No springs—Actuated by counterweights
- Easy to operate
- Safety treads on steps
- Insulated door panel
- Requires no attic space
- Shipped in one package

Write for full information
PRECISION PARTS CORP.
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YOU SAVE TIME in making layouts and in giving lines and grades— SAVE MONEY by reducing labor costs, by using a **WARREN-KNIGHT TRANSIT-LEVEL**

This instrument is made for the Contractor who knows that he can work more efficiently with up to date equipment. This instrument gives you what you have always wanted in a low priced instrument—high power telescope—close focus—vertical arc with clamp and tangent—sensitive level—compass—plate level—protected limb—vertical reading to one minute—extra large slide—steady construction—low maintenance costs.

10 Day Free Trial—No obligation to purchase. For complete details write for bulletin T-40. Liberal allowances for your old instrument.

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Patented
Transit-Level
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Made with
without
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Prompt Delivery
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They Satisfy, Give You Precision and
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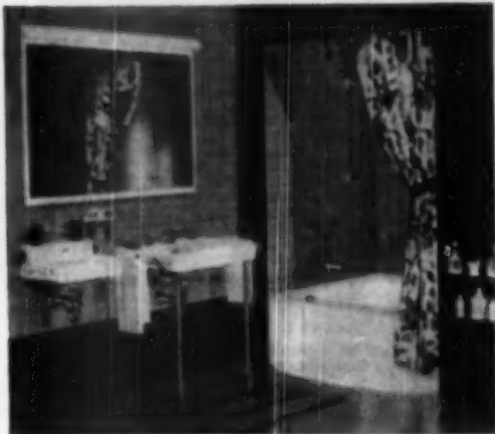
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JUNE 1950

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IT PAYS 3 WAYS

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DURABILITY

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My home ☐ As a dealer ☐ As a contractor ☐

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CITY

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FREE 50% OF YOUR SKETCH-

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AMATEURS GET EXPERT RESULTS, TOO.

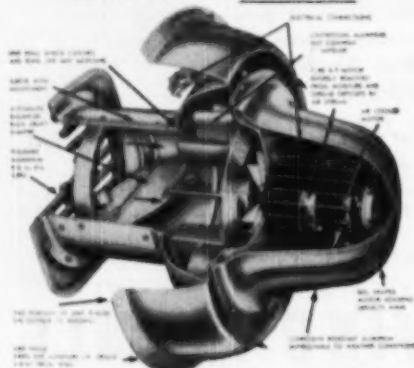
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STEWART MANUFACTURING COMPANY
3204 E. Washington Street, Indianapolis, Indiana

Maximum Space Utilized...

(Continued from page 270)

patented and copyrighted the basic plans and then arranged to provide franchises to interested builders throughout the country. These builders, assigned a specific territory, obtain a license from DeGree to construct these homes and are furnished plans for each house built.



FOUR steps separate living room and kitchen; eight lead to second level

Although the basic plans for these houses contain five alternate elevations, the builder is not limited to these alternatives since he may choose to vary the facade with brick or other exterior finish or otherwise adapt the basic design.

Twenty of these homes have been constructed in the Detroit-Toledo areas by Henry F. Fett, builder, and the Cooke Construction Company. Fett presented one of his homes in Detroit in a public showing in May during which potential home buyers inspected the notable innovations of this house and noted its advantages, not the least of which is, of course, the quantity of house the purchaser



STOOLS recess under snack bar when doors are closed

receives for the price without sacrifice of decor or design; in this home the utmost of livability is made available to families with modest incomes.

Each licensed builder of the four-level house is given the prerogative of choosing the interior finishes, furnishings, and fixtures used in his projects, but all of the homes must meet Architect DeGree's demands of craftsmanship and quality.

A living room fireplace is not part of Fett's model (Continued on page 274)

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The SLIDE-A-FOLD DISAPPEARING ATTIC STAIRWAY



... A handy, practical
and LOW COST way to
reach the valuable storage
space of the attic.

- COMPLETELY ASSEMBLED
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- LOOKS GOOD
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- REQUIRES SMALL SPACE
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Low freight rate — Weight 65 pounds

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BRENNAN ROAD COLUMBUS, GEORGIA

DAMP-VENT saves paint and insulation!

Relieves moisture in house walls... enables moisture to be exchanged to the outside air! Simply drill 1/2 inch hole through siding and insert Damp-Vent... as shown in cross section. RUST-PROOF... with insect screens and built-in rain blocks.

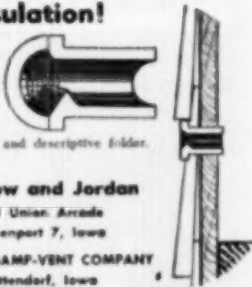
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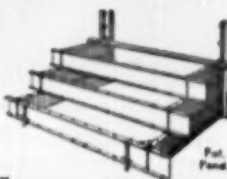
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Speed-up concrete work... easy to set up and remove. Time saved means more profit to you. Pollman Adjustable Steel Forms are unique made. Replacement parts are available.



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You Can't Match the ● CAPACITY ● QUALITY ● PERFORMANCE At The Price



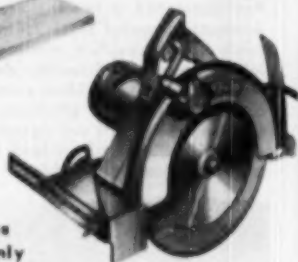
Model 87 HEAVY-DUTY 8 1/2" Mall Saw

\$73.95

Weights Only 12 lbs.

For Right or Left Sawing

\$66.45 Saw Only



Makes Every Cut in Home Construction

A standout for price, power, performance, quality, convenience, this new light-weight 8 1/2" MallSaw cuts everything from wood to steel. It makes straight cuts from 1 1/16" to 5 inches; 45 degree bevel cuts to 1 1/4". Blades are available for dadoing, grooving tile, transite, concrete, cutting light gauge metals.

Choice of right or left blade, 115V or 230V AC-DC motor, \$66.45 without bevel shoe attachment. Other models with 2" to 4 1/2" capacities.

32 factory-owned service stations from Coast to Coast provide quick, dependable repair service. Over 1,000 Mall Portable Power Tools for a million jobs. A Dealer in every town can supply you.

See your dealer today and mail coupon below for FREE 52-page Booklet "Mall Portable Power Tools".

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Please rush FREE 52-page Booklet "Mall Portable Power Tools" and name of nearest dealer.

Name.....

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Man Hours are Expensive...

Save
Them!



Build Safe Scaffolding—Faster *with* "TROUBLE SAVER" Sectional Units

Prefabricated at the factory, "Trouble Saver" Sectional Tubular Steel Scaffolds cut your job costs to an absolute minimum. All parts are interchangeable. Scientific design gives maximum strength. Welded construction assures further safety and efficiency. "Trouble Saver" Sectional Scaffolds are designed for quick and easy assembly without tools for a wide variety of jobs indoors or outside.



Erection is simple... fast... labor-saving. Each frame slips into place quickly over sprockets in frame below... and locks securely. Available parts include frames of various sizes, braces, guard rails, ladders, trusses, brackets, etc. These can be assembled in any combination to fit the specific needs of the job. Safe, strong, long-lasting "Trouble Saver" Scaffolding saves time, money and labor.

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- GOLD MEDAL Tubular Steel Scaffolding
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- "TROUBLE SAVER" Sectional Steel Scaffolds
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BRANCH OFFICES: Atlanta • Boston • Chicago • Dallas • Detroit
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Maximum Space Utilized...

(Continued from page 272)

house, but it is an optional feature of the basic plan as is the toilet or shower in the laundry. A snack bar, concealed by folding doors that also enclose the bar stools, separates the kitchen and dining areas on the first level. The snack bar counter is of Formica; the kitchen is furnished, in this model home, with Youngstown cabinets. These lower level rooms are so arranged that the dining room can serve as a child play area; when the snack bar doors are open, the dining area is always within visual range of the kitchen.

In these rooms, warm air ducts, cast in the concrete floor (of the lower level only) at the outside edges to insure few temperature gradients, supplement three heating outlets. In the model home, only two degrees difference in temperature were found between the first and fourth levels on a typically cold day.

The dining room dado is finished with knotty pine paneling. Walls in the vestibule, hallway, stairwells, kitchen, bath, and above the wainscoting in the dining room are covered with fabric wall coverings. In the model house, simulated-hewn 6x8-inch beams, supporting the living and dining room ceilings, accentuate the colonial motif and are spaced to take full widths of 4x12-foot wall board sheets if dry-wall construction is preferred.

The house measures 30 x 28 feet and will fit on a 40-foot lot. Framing is the conventional platform type with 2x8-inch plates, separated from the masonry foundation by 1/2x6-inch Celotex pad, and recessed 1x8-inch corner bracing. The cross-section reveals a staggered pattern in which the first and third levels form one unit, and the second and fourth levels form another unit; both units share a common supporting partition. The 6x8-inch supporting beams in the living and dining rooms carry the additional 2x4 joists of the upper levels. Other joists are 2x8 inches over 9-foot spans, on 4x11-inch girders. Rafters



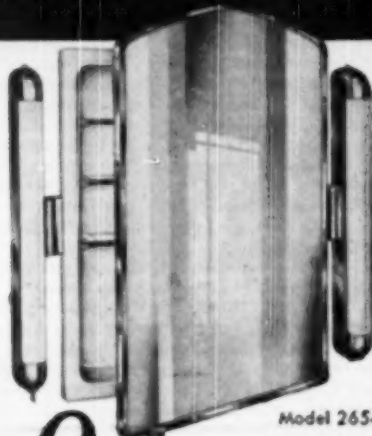
WALLS of stairwell and halls are covered with Santolite

are 2x6's. Exterior foundation walls are parged and waterproofed, surrounded at the footing with drain tile.

The model house is finished in Sitka spruce siding with a small boxed cornice with soffit lining and metal gutter. The calculated heat loss of the building is 70,000 B.T.U.

AMERICAN BUILDER

**A Beautiful,
LOW-COST FLUORESCENT
LIGHTED CABINET...**



Model 2654-80

by **Lawson**
with OUTSTANDING
QUALITY FEATURES!

- ★ One-Piece Drawn Steel Body
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- Baked White Enamel Finish
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- Full Length Piano Type Hinge
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Write for Catalog on Lawson Bath-
room Cabinets, Lavatory Mirrors
and Chrome Accessories . . .

THE F. H. LAWSON CO.

801 EVANS ST., CINCINNATI 4, OHIO

**WORLD'S LARGEST BUILDERS
OF BATHROOM CABINETS**



134 YEARS

Hidalift
THE 100% CONCEALED SASH BALANCE

**CHOICE OF UNIT
MANUFACTURERS**

because . . .

• **100% Concealed**

Completely hidden in the sash at all times. Eliminates exposed parts which mar interior beauty of a well designed and well built sash unit.

• **Rapid Installation**

Speed assembly comparison tests at sash manufacturer's plants prove Hidalift as fast to install as other vertical sash balances that have less desirable features. No special tools required.

• **Two Methods of Tensioning**

Hidalift is the only balance that can be tensioned prior, during or after it is installed in working position without removing screws or stops.

• **Prevents Tension Loss**

Hidalift features the non-slip jiffy clutch which prevents loss of tension during or after installation.

• **Self-Centering Guide Arm**

Hidalift is the only balance with a self-centering die-bushing which provides positive self-centering of balance thereby allowing for minor deviations.

• **Screw Driver Adjustment**

The only balance that can be adjusted after years of tension without removal from sash.

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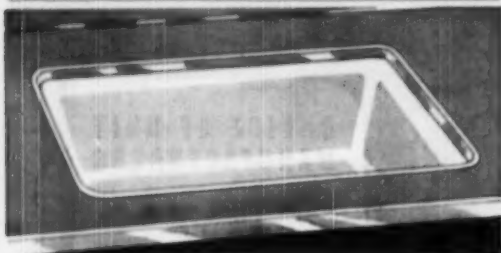
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How to install the NEW CHROMTRIM fold-down type sink frame ...



Align CHROMTRIM sink frame over opening. Embed it in Wernco waterproof adhesive and screw down permanently. Frames are pre-drilled with countersunk holes. Use screws supplied.

Cut covering material to fit over frame. Spread Wernco waterproof adhesive evenly over sink top and press or roll down covering material to smooth out all air bubbles.

Fold down lip over material, starting with wood block and hammer. Continue with block and hand pressure until adhesive squeezes out of edges. Clean off excess adhesive immediately.

CHROMTRIM preformed, fold-down frames are available in 13 popular sizes. Fold-down lip grips all covering materials ... makes tight waterproof joint on plastics, linoleum, etc. from 1/16 in. to 1/8 in. thick. Available with square back or tapered flanges. For extra beauty, finish outer edges of sink top with CHROMTRIM fold-down underface nosing.

How to form your own sink frames on the job



Use CHROMTRIM straight face nosing, edging or fold-down type nosing. Slit the flange or underface shapes as shown, to form rounded corners. Saw one slit only for square corners. Write in for complete information.

A complete line of over 200 metal mouldings, aluminum, some stainless steel. There's a CHROMTRIM shape for every need. See your distributor.



R. D. WERNER CO., Inc., 295 Fifth Avenue, New York 16, N. Y.
In Canada: R. D. Werner Co., Ltd., Oshawa, Ont.

Hits Public Housing Act As 'Legalized Theft'

Declaring that the last Congress, in expanding the public housing program "reached into the pockets of a majority of the citizens and extracted billions of dollars in the name of public welfare without these citizens knowing what has happened to them," W. J. Howard, manager of the Montana Retail Lumbermen's Association, told delegates to the recent Association convention at Butte that the act, which was passed by a narrow margin, "Cannot be described as anything but legalized theft."

"Just before the war," he said, "a very competent tax expert in Montana made a careful investigation of the operation of public housing in Butte, Anaconda, Helena and Great Falls and showed conclusively that each living unit was costing the taxpayers in those communities an average of roughly \$18 per month. With increased costs of local government since that time, it is safe to say that this has now increased to at least \$25 per month and this entirely exclusive of the Federal subsidies for which the citizen pays taxes at the national level."

"Here's what public housing will cost you and your neighbors if it is allowed to grow in your town."

"The Housing and Home Finance Agency, headed by Commissioner Foley, has estimated that the local community will have to pay in the long run an amount equal to 50 per cent of the cost of the project, or the contribution made by the Federal government. This is the part you don't hear about because so far the fight against public housing has been conducted at the national level, but now this fight must be carried on in your own backyards. It is what you will have to pay locally that will really boost the cost of living in your town."

(Continued on page 278)

THE Thoro SYSTEM Presents

Vabar

the perfect
PLASTER BOND

150 apartment buildings in Prospect Park, Pittsburgh, Pa. All interior or exterior masonry walls sealed with VABAR.

VABAR gives perfect bond with brown coat plaster, long endurance and perfect sealing of surface.

Eliminate interior plaster problems. Specify VABAR

Standard Dry Wall Products

BOX 2 NEW EAGLE PENNSYLVANIA



**SOLD
BEFORE THEY
WERE BUILT!**



One of the 128 houses in Alta Mira Addition, El Paso, Texas.

Kitchen-Kraft

STEEL KITCHENS

helped us sell these houses before they were built" . . . reports Emilio Pelaez, Home Construction Company, El Paso, Texas.



"We believed Kitchen-Kraft Cabinets would be a smart investment in sales appeal and future customer satisfaction. The enthusiastic comments of women now enjoying the use of these convenient, beautiful kitchens prove we were right" . . . say Denny Wagner and Sam Hunt, developers of Alta Mira addition.

The Alta Mira addition is just another example of how Kitchen-Kraft kitchens add "salability" to homes and "rentability" to apartments. Only Kitchen-Kraft can answer the demand for "custom-built" appearance at low cost! With Kitchen-Kraft, you can sell "planned" kitchens right from stock. Always remember — Kitchen-Kraft kitchens make homes easier to sell . . . apartments easier to rent.



PROMPT DELIVERY OF ALL KITCHEN-KRAFT EQUIPMENT ASSURED. SEND TODAY FOR PRICES AND LITERATURE.

MIDWEST MFG. COMPANY • GALESBURG, ILLINOIS
Division of Admiral Corporation

JUNE 1950

*Its features appeal to the BUILDER.
Its benefits appeal to the HOME BUYER*

THE RUSCO PRIME WINDOW UNIT
(Vertical Slide)



Complete factory-assembled, factory-painted metal unit includes glass, screen, weather stripping, wood or metal installation members . . . plus insulating sash . . . ready to install with cost-saving ease and speed

Since its introduction, the Rusco Prime Window with built-in controlled ventilation has won immediate favor from architects, builders and home buyers because it provides advantages in year 'round comfort, convenience and protection never before achieved by ordinary window units. And . . . Rusco costs LESS to install and less to maintain.

Only RUSCO offers these design and construction features

All working parts of tubular, hot-dipped galvanized Armco Ingot Iron Zincgrip . . . solderized and finished with baked-on aluminum, outdoor enamel . . . No field painting required . . . Removable panels facilitate building operation . . . Water-proof felt weather stripping throughout . . . No weights, balances or cords . . . Positive automatic locking in all positions . . . Available with or without insulating sash . . . Wood installation members taxite-treated . . . Complete unit offers the combined advantages of windows, screens, storm sash and weather stripping.



Glass and screen panels lift out from inside for cleaning.

Rusco's 14 years of experience in designing, manufacturing and installing over 5,000,000 Rusco Combination Windows is your assurance of the engineering and quality of Rusco Prime Windows. Write for Catalog.

THE F. C. RUSSELL COMPANY

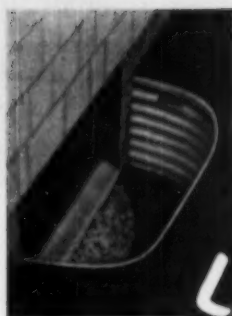


DEPARTMENT 7-AB60
CLEVELAND 1, OHIO

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**THE
NATION'S
BEST
WINDOW-WELL
WALL
LUX-RIGHT**

Enduring! Economical! Essential!
wherever there's a ground-level window

Value! That's the priceless quality of LUX-RIGHT Areawalls! They'll outlast the house. The ONLY areawall Hot-Dip-Galvanized AFTER forming. Every edge, every surface protected from rust. Only LUX-RIGHT gives you this complete protection. Look for LUX-RIGHT label.

Complete range of sizes. Straight and Round Types. See nearest distributor, or write us. Folder Free.

AD 1 *TM REG. U. S. PAT. OFF.

ST. PAUL CORRUGATING CO.
Expert Sheet Metal Manufacturers for 65 Years
SOUTH END WABASHA BRIDGE, ST. PAUL 1, MINNESOTA

Hits Public Housing Act

(Continued from page 276)

"The Federal subsidy of \$12.3 billion passed by the last Congress providing for 810,000 units means that 15,200 Federal tax dollars have been available for every public housing unit built in your town. This is equivalent to handing each family occupying a public housing unit a monthly rent check of \$31.69 for 40 years,—an amount greater than the average rent paid by tenants of all houses and apartments in the United States.

"In addition to this high Federal tax burden, all local real and personal property taxes on public housing must be forgiven. The estimated cost to the local community of their forgiving of taxes can be approximately \$5,880, for each family in the first 40 years. This cost to the local taxpayer is in addition to the Federal tax contribution of \$15,200 per unit mentioned above. Don't forget that you are both a Federal and a local taxpayer—so you are socked twice.

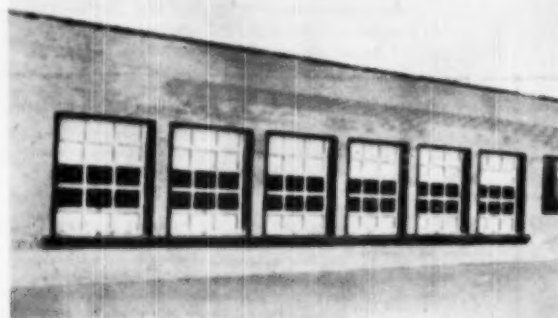
"The law authorizes as much as \$15,000 construction cost for a 3-bedroom public housing unit plus cost of land, sidewalks, playgrounds, etc.—or a total of \$16,000 or \$17,000. This is the kind of luxury housing for low-income families for which you will pay.

"The public housing units under the law can all be built on vacant land; there is no requirement that they be erected on land cleared of slums; such vacant land would normally be built upon by private individuals and so produce taxes to support the city, but with public housing it will be tax free.

"The local citizens have no control over the management of these public housing units after their construction is approved.

"The law does not provide that welfare and relief families be given first preference in occupying these units. These needy people still must be supported by public and private charity."

A Fine Line of Doors... A Complete Line of Doors



WHETHER it is a request for a Residential, Commercial or Industrial Door, Raynor dealers are equipped to meet any door demand.

Every Raynor door you install is another salesman working just for you! The construction and performance built into all Raynor doors, regardless of size, develops good will and creates a greater demand for Raynor Up and Over Wood Sectional Doors.

* Write direct for complete dealer and distributor franchise information.

Complete DEALER MERCHANDISING PLAN

- Newspaper Mat Service • Complete
- Set of Literature • Co-Op Telephone
- Directory Advertising Plan • Sales
- Management Assistance • Tested and
- Proven Promotional Sales Plan • Banners and Signs • Catalogs and Direct Mail Material



RAYNOR MANUFACTURING COMPANY

River Street, DIXON, ILL.

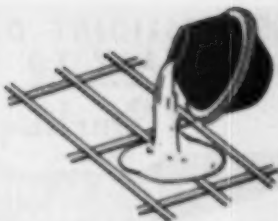
For Better Homes . . . Quicker Sales

American Welded Wire Fabric



The foundation of this attractive duplex home is concrete, reinforced with American Welded Wire Fabric. Many builders have found that houses in which concrete construction is reinforced with wire fabric stay new many years longer, sell more rapidly, give owners permanent satisfaction.

This concrete floor slab is reinforced with American Welded Wire Fabric. In many modern dwellings, tubing for radiant heating and electrical and plumbing connections, built right into the reinforced concrete, contribute to the comfort, convenience and permanent good looks of the home.



YOU can build additional sales pull into your new homes—promise lasting good looks—by reinforcing all types of concrete construction with American Welded Wire Fabric. And those new homes will stay new, for proper reinforcement prevents the excessive settling that usually results in cracked plaster, gaping baseboards, sticking doors and other annoyances.

Welded Wire Fabric distributes the strength of steel evenly throughout concrete structures. Its many small, closely spaced members provide continuous reinforcement, join foundations, walls and floors into a single unit, protect the entire house from disfigurement and damage.

Wherever you plan to use concrete construction, plan to use American Welded Wire Fabric reinforcement. Many prominent builders have found that policy the sure way to build better homes, to assure quicker sales and satisfied buyers.

You can get U-S-S American Welded Wire Fabric in every locality from jobbers' and dealers' stocks.

Get Expert Advice

It will pay you well to get the latest information on American Welded Wire Fabric. Send today for our illustrated folders, which show typical uses of wire fabric reinforcement in factories, farms, airports and public buildings, as well as in residences, sidewalks, curbs and driveways. If you wish, our qualified expert will be glad to call and show you how you can use U-S-S American Welded Wire Fabric to the best advantage. Just drop a line, on your business letterhead, to our nearest sales office.

AMERICAN STEEL & WIRE COMPANY
GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA STEEL COMPANY, SAN FRANCISCO
PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every type of concrete construction needs



AMERICAN WELDED WIRE FABRIC

reinforcement

UNITED STATES STEEL

NOW! SLIDING DOORS ARE EASY TO INSTALL

Sterling
HARDWARE

REQUIRES NO SPECIAL
WOODWORK



No. 840

HANGER
For side mount-
ing. Not ad-
justable.

No. 845

HANGER
For top mount-
ing. Not ad-
justable.

No. 850

HANGER
For top mount-
ing. Fully ad-
justable.

No. 860

HANGER
Ideal for pocket
doors.

- Sturdily constructed
- Simple to install
- Easy to adjust
- Quiet in action

OTHER STERLING HARD-
WARE PRODUCTS: Casement
hardware, storm sash hard-
ware, pull-top closers for
casement windows, closet
and cabinet doors, flush
pulls, and edge pulls.



No. 860—EASIEST OF ALL HANGERS
TO ADJUST. Remove cover plate and
turn adjusting stem. No need to remove
wood trim.

WRITE TODAY FOR ILLUSTRATED CATALOG AND PRICE SHEET

Sterling Hardware Manufacturing Co.

2345 Neilan Street, Chicago 18, Illinois

Save
HALF
Your
Time



Measuring tread or riser



Marking board for perfect fit

Building Staircases

- THE ELIASON STAIR GAUGE measures stair treads, risers and closet
shelves, etc., in a matter of seconds. Saves You \$20.00 to \$30.00 on each
staircase job. Gives you exact length and angle ready for marking. Each
end pivots and locks at any angle. Length adjustable from 20" up. Made
of nickel-plated steel for lifetime service. Fully Guaranteed . . . Only
\$12.95 cash with order, or C.O.D. plus postage. Order Today, or send
for circular with reports from users.

DEALERS and AGENTS WANTED

Eliason STAIR GAUGE

ELIASON TOOL CO. • 2119 E. 56th Street • Minneapolis 17, Minn.

☐ Ship me — Eliason Stair Gauges at \$12.95 each, Postpaid any-
where in U.S.

☐ \$ — is enclosed. ☐ Send C.O.D. ☐ Send Circular

Name

Address

Developer Caters to Small Builders

(Continued from page 254)

curb-cuts and long driveways; and a heavy tree, shrub and flower planting plan. In addition to the usual parkway trees, the tract features screen planting and a 100 x 600-foot flower garden at the entrance.

Extensive advertising is done, mostly classified, display and direct mail. Working on the theory that every sale of a duplex is not only a small commission in their pockets but really means the sale of another lot to the builder, the firm tends to spend more money on advertising than the average broker.

A feature that has brought most of the builders into the tract is company financing during the construction period. Terms and options are liberal. When a builder first arrives and shows interest in a certain group of lots he is allowed to take a 90-day option for only \$100 deposit per lot. This gives the builder time to draw up his plans and to go with them to either his own lender or to one of the several lenders with which the McCarthy company has made arrangements in advance.

When the builder has secured his construction loan commitment, he may build under an FHA Operative Builders Commitment (in which case he usually has to have sufficient capital to pay for the lots in cash and let the FHA loan carry the cost of construction), or use the company's secondary financing plan. In the latter option, the builder secures a conventional loan, pays about one-fourth of the price of the lot in cash, and then the company takes a second lien behind the construction loan for the balance of the cost of the lot to the builder.

This second lien may be paid off if the eventual buyer converts to an FHA loan after completion, or if the buyer wants, the second lien may be left on the premises and converted into a 6-year payoff loan at that time. This latter system has the advantage of allowing the builder to sell at a smaller down payment than the FHA terms would ordinarily permit.

The firm stresses the furnished model home idea, and not only maintains one of its own two-story duplexes as an exhibition home, but also has at least one builder's model open all the time as a comparison. The model homes are featured in all the firm's advertising. The outdoor living idea is highlighted, and various types of architectural appeals are made, such as "Louisiana Colonial," "California Modern," "French Provincial," etc.

James H. McCarthy, vice-president and sales manager of the company, feels that his brother's original conception of a tract suitable for the two-to-five structure builder has paid off. "The time is rapidly coming to an end where the private buyer will rush out, buy a lot, and then look around for a contractor to put up his building," he commented. "Likewise, project building in itself is not the answer to getting up residential income buildings. We feel that this tract is the answer to the problem. We've been able to offer diversity of type and price, from the smallest type, minimum duplex, to substantial 4-unit buildings. We're getting good results on the program. Our lots are being absorbed steadily and our builders are making money."

Hotpoint Elects Vice-President

William A. Kissack has been elected vice president of industrial relations, by the board of directors, Hotpoint, Inc., James J. Nance, president, announced today. Kissack previously has been manager of the department, a position he has held since he joined the company in October, 1949.

Before joining Hotpoint he headed industrial relations for the Flintkote Co. at New York.

Kissack now makes his home at 1035 Elm Street, Winnetka, Ill.

This installation shows Weldtex Squares in alternating, or basket-weave, design. Other methods of installing these handy squares... such as plaid, diamonds and the like... can give you striking variety, either for wall or ceiling treatment.



Now... Popular, Low-Cost Weldtex* is Available in Three Forms!

WELDTEx Squares are the newest way to use this Beautiful, Decorative Plywood



Weldtex Siding is packed in bundles of 22 pieces.

TAKE a look at the striking decorative beauty of the ceiling pictured above. Now stop and think what this means to you...how easily you can put in a beautiful decorative feature like this!

For Weldtex is now available in pre-cut squares of 12" x 16" and 24", all 5/16" thick. These squares—made of hardwood—go up quickly and easily...right over studs, or on furring strips.

This newest form of Weldtex gives you one more way to sell this popular material...either for new construction or profitable remodeling jobs.

And, for outside work, Weldtex Siding will bring

you plenty of business. This new siding material, made in size 48" x 15 1/2", combines the decorative advantages of both fine Cedar Shakes and Clapboard. And it's so easy to work with. Only 22 pieces cover an entire square. You have a minimum of seams...and those easily backed up. You can cut your labor costs drastically on siding a small house and still make a handsome profit.

These two new forms, together with the familiar 4' x 8' panels for interior and exterior walls, make Weldtex one of the most versatile structural-decorative materials now available. Don't fail to get the profitable business that's yours with Weldtex.



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Applying Underflooring with Bostitch H4 Stapling Hammer instead of using hammer and 3-penny nails resulted in one man doing the work of three for this trailer manufacturer. Each blow drives home a sturdy Bostitch H4 staple to hold 3/16" underflooring securely to yellow-pine 2" x 4" framing. Workers approve the H4's easy one-hand operation. No mashed fingers... no infected mouths.



Shingles Applied in Half Nailing Time with Bostitch H4 Stapling Hammer, reports this maker of factory-built homes. It's easy to see why. One blow per 1/4" staple. One hand free for placing shingles. No fumbling with nails. Hammer is quick, easy to load. No wasted blows... no wasted time!



Stapling Metal Lath with Bostitch T3 Automatic Tackers speeds up corner jobs like this. Here strips of metal lath are being applied at intersection of plaster board ceiling and walls in big housing project. The Bostitch T3 drives staples in — fast, easy, secure.

SAVE WITH BOSTITCH! Compare Bostitch stapling hammers and tackers with your present methods for installing insulation, attaching building paper, roofing, metal lath, etc. You'll find, as have many builders and contractors, that Bostitch fastens it better, faster, easier, at lower cost. Get all the facts — mail the coupon today.

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FOR APPLYING STAPLES
ALL TYPES OF STAPLES
APPLIED BY MACHINES

Retail Business Space Short In 54 Per Cent of Cities

Retail business space on the whole is sufficient to meet demand in 54 per cent of our cities, but a good balance between supply and demand exists in another 41 per cent of the communities, the 50th real estate market survey of the National Association of Real Estate Boards shows. The study brought reports from real estate boards in 470 cities.

General volume of real estate sales, including both residential and commercial property, was in an up trend as of the end of the first quarter of 1950. And while general merchandising has had some leveling off over the country, and while cities vary considerably at present in respect to commercial real estate, it is notable that downtown retail space where occupied by well-rated tenants is now closely held. Owners see no alternate investment available that could give them a better basis of return.

Office space is short in 44 per cent of the reporting cities, while supply balances with demand in 50 per cent of the cities. Over supply of office space is felt in only 6 per cent of the cities, and of retail business space in only 5 per cent of the cities.

Significant, in the uncertainty of trends for general business, is the fact that industrial real estate sales in typical major manufacturing areas are at a high volume as of the first quarter of 1950. Through lack heretofore of zoning for industrial uses, some large cities are beginning to feel a space problem for large-scale central-city industrial development.

Cities of over a 500,000 population, as a group, have caught up with their space needs much farther than have the smaller cities. Among these giant cities, 71 per cent report a balance between supply and demand for retail space, and 73 per cent have reached a balanced supply of office space.

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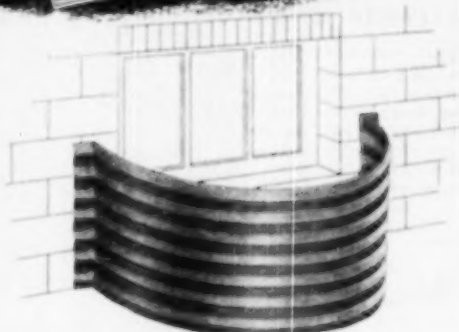
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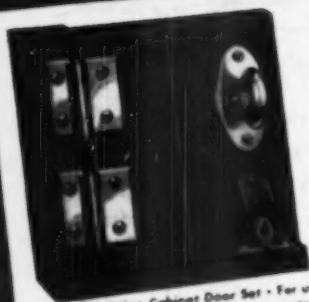
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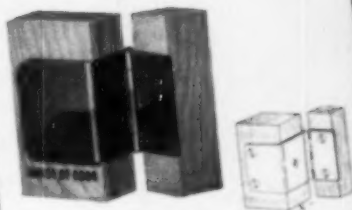
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